Comments on the
Human Health Risk Assessment
GE/Housatonic River Site
Rest of River
Volumes I-V
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Introduction and disclaimer

This review of the Human Health Risk Assessment of the Housatonic River/GE Site was conducted under a grant from the Environmental Protection Agency to the Housatonic River Initiative. The materials and conclusions presented here are those of the authors and do not represent the position of the EPA, ACOE or any other federal or state agency.

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The context of this report is to provide technical feedback on the Human Health Risk Assessment to the EPA and to inform the citizens (through HRI and HEAL) of the strengths and weaknesses of the HH RA. This feedback and evaluation is also intended for the scientific peer review panel that will evaluate this HH RA in 2003. It is the intent of the reviewers and authors of this report to improve the HH RA and eventually result in a more protective site cleanup.

The purpose of these comments is to evaluate if the Human Health Risk Assessment adequately protects the health of the citizens of Massachusetts and Connecticut from the toxic chemicals released from the GE facility in Pittsfield, MA. This review examines the scientific information and methods used, the underlying information, both quantitative and qualitative, the assumptions, logic and reasoning and other significant aspects of the HH RA.

This report includes the following:

- General Comments
- Specific topics:
  - TEQ effects non-cancer
  - Michigan fish tissues
  - Literature searches on dioxin

CT sediments and flood plain
Fish consumption

- Volume Specific Comments: I, III, IV, V
- References
- Literature Searches
- Floodplain information
- CT sediment data

Overall Evaluation and Summary

The Human Health Risk Assessment (HHRA) uses standard EPA practices and guidelines for the most part in assessing the risks to human health from chemical contaminants in the Housatonic River as a consequence of activities at the GE plant in Pittsfield MA. The HH RA focuses on PCB's and the dioxin-like compounds (noted as TEQ's), with some consideration of other organic chemicals and metals. Most of the other organic chemicals and all of the metals were dropped from the final analysis for one reason or another.

The HH RA does use some more recent techniques for quantitatively evaluating and estimating risks to human health. The most obvious ones are the more recent cancer risk assessment guidelines, use of newer statistical techniques for analyzing and estimating values, use of probability bounds and Monte Carlos estimation techniques, and the GIS analysis. These newer techniques offer improvements in some areas of understanding and evaluating the underlying data.

The HHRA concludes that the contaminants in the Housatonic River pose an unacceptable risk to human health, largely, and in places entirely driven by the consumption of contaminated fish and wildlife by people using the river. This risk is present for the river from Pittsfield extending into Connecticut to at least Lakes Lillinonah and Zoar. The risks are from PCB's and dioxin-like chemicals (TEQ's) and include cancer and non-cancer health effects. These conclusions are based on and supported by literature on health effects of PCB's and dioxin-like chemicals, on past sediment and tissue sampling, on recent sediment and tissue sampling and on modeling and statistical analysis. The present reviewers agree in principle with the HHRA, although believe that the risks are understated and underestimated in the HHRA.

The HHRA has an internal inconsistency in the way that EPA has used guidelines and documents. The HHRA uses the most recent version of the EPA Cancer Risk Guidelines (US EPA, 2003a and b.) but fails to use the most recent cancer slope factor for dioxin (US EPA, 2000). Both are in draft form and EPA needs to use both of these as each is the latest technical information on the relevant subject from the agency.

This RA cannot overcome most if not all of the major limitations of RA that are an inherent part of the process and practice as it is conducted in EPA. These limitations include the following:

- Reliance on the known factors in toxicology, with no ability to act on the unknown chemicals, processes or concepts- such as low dose effects, non-monotonic dose-response functions or novel outcomes. The toxicology of lead is now proving challenging because recent findings indicate there may be no threshold for effects, a point that is acknowledged in the CDC statement on lead poisoning.

- Traditional toxicology has been unable to account for completely unknown and unpredicted events and processes. The endocrine disruption issue is the most well known example of this problem (Colborn et al., 1993). Traditional toxicology testing uses high doses and examines known effects that are not subtle, long term or trans-generational and can be observed in typical rat bioassays with known endpoints. Endocrine disruption was overlooked for decades in no small part owing to the non-traditional nature of the mechanisms and outcomes. But now that the phenomenon is recognized, numerous other aspects of endocrine disruption are begin described in the literature (e.g. Schantz and Widholm, 2001).

- Little ability to predict risks from chemicals for which there are no toxicological data or for effects that are not well studied in the toxicological literature. EPA and other regulatory agency risk assessments often fail to include chemicals in the risk analysis if there are no entries in the official EPA IRIS database. One case in point in the present RA is the dioxin-like compounds.

- Has yet to develop quantitative methods for dealing with mixtures that do not act through a common mechanism of action.

- Assumes there is sufficient knowledge and understanding to accurately (or within some tolerable range) predict consequences of marginal conditions, in the present case, long-term exposures to low levels of PCB's and TEQ's.

- Risk assessments use averages or some other measure of central tendency or estimate of the group. Even in the most conservative cases of the Reasonable Maximum Exposure (RME), risk assessments no longer use the most highly exposed person/scenario. This procedure leaves out the most highly exposed individuals and more sensitive persons who will react adversely to low levels of chemicals.

These limitations of the RA are not to lessen the ability to use the tool of risk assessment in analyzing the data that are available with the most rigorous methodology. Rather, these limitations are noted for the review in order to indicate that the current practices of risk assessment will not be able to address all issues in the health threats from chemical contaminants. Risk assessment is but one tool used to evaluate the contamination at the GE/Housatonic site. Other tools must be used to complement the traditional HHRA. Other such tools include Monte Carlo and probability bounds analysis to evaluate uncertainties; application of the precautionary principle where the data are sparse or absent; toxicology testing to gain empirical information on specific conditions; epidemiology to estimate health effects of past exposures.

In those areas where the risk assessment is limited by few data and inapplicable methods, decisions should be based on a protective and conservative approach to protect human health.

The HHRA identifies a series of uncertainties, omissions and limitations. More than a few of these items are underestimates of risk to the populations in the Housatonic region. This review identifies additional issues that contribute to underestimates of risk. These underestimates of risk include the following:

- No evaluation of non-cancer TEQ effects;
- Use of the older CSF for dioxin-like chemicals;
- No inclusion of subsistence anglers and cultural practices
- Limited data on waterfowl and other non-fish wildlife consumption;
- Limited data on CT contamination;
- No evaluation of fetal exposures/effects;
- No fish tissue or consumption data for carp;
- Body burdens are higher in the Housatonic region and need to be included in the dose estimates;

Given these uncertainties and underestimates, the HHRA needs to make some adjustment. EPA should consider adding an uncertainty factor of ten (10) or somehow making a quantitative and qualitative increase in the risk estimates from the HHRA.

General Comments

1. This RA relies on a wealth of previous information to estimate health risks from PCB's and, to a lesser extent, dioxin–like compounds, termed TEQ's. The RA is well written and easy to understand and follow. It is also logical in presentation and format.

2. The RA relies on and uses a substantial database, even if the data do not over all the elements equally as well. Data are available for a remarkably large number of variables over a period of time. These data are

concentrated in the Massachusetts region of the river, and even more so in Reaches 5& 6, just downstream from Pittsfield to Woods Pond.

3. The RA uses multiple sources of information, including historical and current data, literature information, guidance documents and government reports. There are a few places in the RA that refer to additional local information that seems to be forth-coming or not obtainable.

4. The HHRA acknowledges that the primary exposure pathways for aquatic contamination, notably PCB's and dioxin-like chemicals, are from sediment through the food web. Extensive studies at a number of sites have demonstrated that humans take up PCB's and TEQ's via consumption of contaminated fish, shellfish, wildlife, etc that are living in or associated with the aquatic system, as in the Housatonic River. This pattern is well known and described for PCB's, dioxin-like chemicals (see Schecter, 1994, for reviews) and other environmental contaminants. The present reviewers are in agreement with this observation.

5. The RA uses the most recent EPA procedure for estimating cancer risks – as written in the draft guidelines for cancer risk assessment. This Guidance includes a supplemental document on children (EPA, 2003 a and b).

6. The RA fails to use or estimate cancer risks from TEQ's using the latest information on cancer potency as described in the latest version of the Dioxin Reassessment (September 2000). The HHRA uses the older CSF. This difference is several fold (6X) and ignores the most recent evaluation of a large dataset that EPA evaluated in order to determine a cancer slope factor. The numerical difference is given some token consideration in the risk assessment, but the RA needs to at least present both cancer risk estimates.

The HH RA explains in Appendix C, Section 7 on Uncertainty, page 7-14:
"In its reassessment, EPA recommended a revised CSF of 1E+06 $(mg/kg\text{-}d)^{-1}$ to estimate upper-bound cancer risk for background intakes, and incremental intakes above background, of 2,3,7,8-TCDD and other dioxin-like compounds. Use of this recommended CSF would result in an approximately 6-fold increase in the cancer risk estimates associated with 2,3,7,8- TCDD and other dioxin-like compounds. Thus, the current CSF for 2,3,7,8-TCDD used in this assessment may underestimate potential risks."

At a minimum, the HH RA must include calculations with both CSF's, showing the greater cancer risks using the six-fold (6X) higher CSF.

7. Several parts of the RA note that some chemicals were not known to be identified with the facility. After as many years as this facility has been

investigated, it is hard to imagine that EPA has not conducted an assessment of the chemicals used in or released from the GE facility.

8. There is no real evaluation of the non-cancer health effects of dioxin-like compounds, expressed as TEQ's. The document acknowledges this omission in several places (Vol. I, p 2-16, l6-18). The health effects from TEQ exposures are numerous, occur as early as gestation, and occur at low levels. This issue is discussed in greater detail below.

9. There is little consideration, no quantitative, of fetal exposures and effects; effects on young children (1- 6yr) are considered with adults in the exposure scenarios.

10. The data on Connecticut are not sufficient to justify all the conclusions, especially that the lower part of the river watershed is not impacted, given the other evidence (see report by BBL, 2003, Appendix B). The HHRA admits to having few data on floodplain soils form CT. The data on sediment contamination is sparse, especially by comparison with the upper reaches of the river, Reaches 5 and 6. The files on sediment sampling include a file of 552 individual samples that extend back 30 years. Only 44 samples are listed as taken from recent years. Attached as an appendix are the sediment data, including a summary that shows the small number of recent samples in CT.

11. We find no inclusion of cultural practices of river use- American Indians and foragers who use the river, harvest fish and shellfish, etc. One section of the HH RA refers to the use of the watershed and nearby river areas for collecting fern fiddleheads, in the Direct Contact section. Only two of the exposure areas include the use category as fiddlehead collecting. In the fish and waterfowl consumption section (Vol. IV, Appendix C, page 4-16) the document refers to the Schaghticoke Tribe, but then the topic is never raised again that we find. The matter must be completed as noted.

12. The fish and waterfowl consumption estimates do not include consumption of turtles, only have a minor consideration of amphibian (frog) consumption, and the fowl consumption rates are based on a restricted database. Two efforts are needed to correct this limitation, one is to collect more data either in the coming season or from historical information, the other is to use other (more conservative) assumptions for estimating amphibian, fish and fowl consumption.

13. The HHRA did not use a formal weight of evidence (WOE) approach. The WOE offers one means of evaluating different types of evidentiary information that may have quite different scales and units of measurement. Several NRC publications on risk assessment offer more

detailed discussion of WOE. In addition, the Ecological Risk Assessment for the GE/Housatonic River site uses a formal WOE approach, offering an example of the use of WOE.

14. EPA needs to examine the fish tissue levels of PCB's from the well-known and studied cases in Michigan, Oswego, studies, etc. to compare those with the present case. This point is explained in greater detail below.

15. Existing body burdens of PCB's and TEQ's and other exposures do not seem to be accounted for in the RA. This issue is particularly important because the entire population has PCB's, and the population in the vicinity if the watershed undoubtedly has higher than average levels. Massachusetts Department of Public Health (MADPH, 1997) shows that the 0.9-1.5 ppb PCB body burden in the Housatonic watershed in this area is substantially higher than the national average listed by the CDC (2003). The HHRA has to assume that the same elevated PCB body burden is true for the entire population of the Housatonic River watershed, all the way to Connecticut and Long Island Sound (L.I.S.)(The fact that the sources of the PCB's in the L.I.S. area are other Superfund sites is not relevant to the fact that they have higher PCB levels). There are significant consequences of this higher background. The most important matter is that the population already carries a dose of PCB's and TEQ's, and already receives exposures to PCB's and TEQ's in existing pathways. The Housatonic River specific pathways are in addition to these exposures. EPA already considers the existing exposures to TEQ's unacceptable, which is the explanation for not determining and setting an RfD for dioxin-like compounds (this HHRA). The HHRA does not seem to have accounted for these existing exposures, and thus is missing an important "background risk" to which the site specific risks are added, necessitating a quantitative consideration.

16. Apart from the groups of PCB's and dioxin-like compounds, the HHRA does not specifically address the problems with mixtures. EPA has guidelines on risk assessment in the cases of mixtures of chemicals (EPA, 2000b). Clearly, this site has mixtures of chemicals more than the PCB's and dioxin-like chemicals. The HHRA notes the presence of metals (lead, arsenic), pesticides and other organic chemicals (PAH's). The sum if these exposures should be evaluated in some way in the HHRA. Even if these are individually at levels below the risk-based screening levels, the HHRA needs to consider the health effects of the mixture of compounds.

17. Inhalation exposure is largely discounted throughout the HHRA. It is true that the Conceptual Site Model (Fig. 1-5 in Vol. I) includes inhalation as an exposure pathway. The Direct Contact analysis also includes inhalation, but the exposures from inhalation estimated in the HHRA fall below the threshold for risk and are substantially lower than the risks form

consuming fish and waterfowl that are contaminated with PCB's. This review agrees with the estimates that inhalation is substantially less than fish and waterfowl consumption pathways. However, in time, as PCB's decrease, inhalation exposure pathways will increase in proportion and in future exposure scenarios will be a larger percent of the total PCB exposure.

18. The Non-cancer health effects of PCB's are of great concern, especially for the fetal exposures and early childhood, as several investigators have shown that children's learning and neurodevelopment are affected by PCB exposures (see Schantz et al., 2003). This issue is explained in more detail below.

Failure to Evaluate Non-cancer risks from TEQ's

There is no real evaluation of the non-cancer health effects of dioxin-like compounds, expressed as TEQ's. The document acknowledges this omission in several places. The HHRA claims that there is no reference dose (RfD) for dioxin, and hence none for the other dioxin-like compounds that are all included together in the TEQ risk estimates. This statement is wrong. An RfD of 1.0 pg/kg-day has been published by EPA (EPA, 1984) and ATSDR (1998). Furthermore, EPA has used this same RfD in two different applications within recent years.

The first application was for the risk assessment for the Superfund site in Times Beach MO, where EPA (Office of Research and Development) used the RfD of 1.0 pg/kg-day for the incinerator used to treat soils contaminated with dioxins (EPA, 1995).

The consequence of ignoring TEQ non-cancer effects is manifested in several places. The Direct Contact, Phase II attempts to estimate TEQ risks based on a relationship between soil values of each. Obviously, with no RfD to compare, this comparison\analysis cannot be conducted for TEQ. The RA states clearly (page 6-4, lines 16-18) that:

"No correlation for the noncancer HIs is presented because, as noted in Section 3, there is
no RfD for 2,3,7,8-TCDD (used as the benchmark for TEQ) with which to quantify noncancer effects."

For comparison, the cancer risks from TEQ are several-fold greater than the tPCB cancer risks, as explained in the Direct Contact Phase II RA (page 6-2 to 6-4).

TEQ:

The EPA Draft Dioxin Reassessment (Vol. III, table 2-1.) summarizes the effects of dioxin and related compounds on humans and other animals (X= effect occurs):

Effect/Outcome	humans	other animals
Ah receptor binding	X	X
Enzyme induction	X	X
Acute lethality	no	X
Wasting syndrome	no data	X
Teratogenesis/fetal toxicity, lethality	X	X
Endocrine	X	X
Immunotoxicity	X	X
Carcinogenicity	X	X
Neurotoxicity	X	X
Chloracne	X	X
Porphyria	X	X
Hepatotoxicity	X	X
Edema	no data	X
Testicular atrophy	no data	X
Bone marrow hyperplasia	no data	X

The following additional effects have been listed in the literature and associated with or caused by dioxin exposure:

Endometriosis	Rier et al;., 1993
Altered sex ratios of births	Mocarelli et al., 1996, 2000

This area of scientific investigation and research is incredibly active, with many publications on the subject each year. The annual Dioxin Conference in fact brings together scientists from around the world to present their research on the subject. As a result, it is certain that the HHRA has not been able to include some papers and research results in the assessment. The goal is to not exclude anything that will affect the outcome of the risk assessment. Since the work of Mably et al. (1992a,b,c) showing the reproductive/developmental effects of single doses of TCDD, numerous research efforts have confirmed the findings in multiple species and both sexes. These are particularly troubling since DeVito (DeVito et al., 1994, 1995) demonsrated that body burdens are likely the best means of measuring dioxin dose over time, and that current doses are in the range of those that cause effects. One of the significant issues of this research is that present exposures are already not safe, and any additional dioxin doses will increase the health risks to the population. Those people in the population who carry higher body burdens or experience higher doses will also face greater risks of adverse health effects from dioxin and related compounds.

Comparison with Michigan Studies:

Recent literature (see Schantz et al. 2001, 2003) indicates that relative small differences in PCB levels in older adults are associated with a significant decrease in memory and some other neurological functions Schantz et al., 2001). This pattern has been seen in children (Jacobson's research) and the major research efforts are described by Schantz et al (2003). Fish tissue PCB levels on the Michigan DEQ fish tissue monitoring program website (http://www.deq.state.mi.us/fcmp/default.asp) indicate that PCB levels in whole fish and skin-on fillets are in the same range as the lower reaches of the Housatonic River, Reaches 8 –16. These values are often 0.5 –1.0 ppm, and not uncommonly 1-5 ppm (see MDEQ website and attachment to these comment for part of the data. Michigan DEQ (Michigan DEQ, 1999) Although the Michigan PCB exposure is not identical to the Housatonic River situation, the point is that

Fish Contaminant Monitoring Program Online Database

The table below displays information about the one or more fish included in the selected samples.
Please choose which analytes you are interested in viewing for the samples listed.
To view lengths, weights and other fish-specific information about a sample, click the SampleID.

Edible Portion Samples from Lake Michigan, Big Bay De Noc

SampleID	Collection Date	Sample Type	Species	# of Fish in Sample
90059-S01	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S02	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S03	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S04	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S05	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S06	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S07	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S08	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S09	5/30/1990	Fillet, skin on	Lake Whitefish	1
90059-S10	5/30/1990	Fillet, skin on	Lake Whitefish	1

Choose Output Options

For the above samples, which analytes are you interested in viewing?

- ○ Fat, Mercury, Total PCBs, Total Chlordane, Total DDT
- ◉ Fat, Total PCBs, Aroclors, Congeners
- ○ Fat, DDT Metabolites, Chlordane Isomers
- ○ Fat, Dioxin and Furan Congeners
- ○ Fat, HCB, Toxaphene, Styrenes, Heptachlor, Heptachlor epoxide, Mirex, PBB, Dieldrin and Aldrin

Fish Contaminant Monitoring Program Online Database

The results are displayed below. It is possible to cut and paste the table below into a spreadsheet program.

Location Information	
StationID:	265
Waterbody Name:	Lake Michigan
Location:	Big Bay De Noc
Lat/Long:	45.8388/-86.71839 (View Map)
USGS HUC:	04060200

Sample Results

SampleID	Collection Date	Species	Sample Type	Fat (%)	Total PCB+ (Aroclor) (ppm)	Total PCB+ (Congeners) (ppm)	Aroclor 1242 (ppm)	Aroclor 1248 (ppm)	Aroclor 1254 (ppm)	Aroclor 1260 (ppm)
90059-S01	5/30/1990	Lake Whitefish	Fillet, skin on	14.15	0.662		0.025	0.025	0.662	0.025
90059-S02	5/30/1990	Lake Whitefish	Fillet, skin on	15.85	0.391		0.025	0.025	0.391	0.025
90059-S03	5/30/1990	Lake Whitefish	Fillet, skin on	14	0.28		0.025	0.025	0.28	0.025
90059-S04	5/30/1990	Lake Whitefish	Fillet, skin on	15.25	0.357		0.025	0.025	0.357	0.025
90059-S05	5/30/1990	Lake Whitefish	Fillet, skin on	12.95	0.34		0.025	0.025	0.34	0.025
90059-S06	5/30/1990	Lake Whitefish	Fillet, skin on	11.1	0.519		0.025	0.025	0.519	0.025
90059-S07	5/30/1990	Lake Whitefish	Fillet, skin on	12	0.34		0.025	0.025	0.34	0.025
90059-S08	5/30/1990	Lake Whitefish	Fillet, skin on	6.95	0.488		0.025	0.025	0.488	0.025
90059-S09	5/30/1990	Lake Whitefish	Fillet, skin on	18.85	0.405		0.025	0.025	0.405	0.025
90059-S10	5/30/1990	Lake Whitefish	Fillet, skin on	12.35	0.456		0.025	0.025	0.456	0.025

Fish Contaminant Monitoring Program Online Database

The results are displayed below. It is possible to cut and paste the table below into a spreadsheet program.

Location Information	
StationID:	702
Waterbody Name:	Lake Michigan
Location:	Little Bay De Noc
Lat/Long:	45.74178/-87.03117 (View Map)
USGS HUC:	04060200

Sample Results

SampleID	Collection Date	Species	Sample Type	Fat (%)	Total PCB+ (Aroclor) (ppm)	Total PCB+ (Congeners) (ppm)	Aroclor 1242 (ppm)	Aroclor 1248 (ppm)	Aroclor 1254 (ppm)
2000039-S01	10/5/2000	Carp	Whole	8.95		0.343			
2000039-S02	10/5/2000	Carp	Whole	12.15		4.664			
2000039-S03	10/5/2000	Carp	Whole	8.45		1.554			
2000039-S04	10/5/2000	Carp	Whole	10.2		1.961			
2000039-S05	10/5/2000	Carp	Whole	13.8		3.982			
2000039-S06	10/5/2000	Carp	Whole	8.05		2.152			
2000039-S07	10/5/2000	Carp	Whole	7.65		1.859			
2000039-S08	10/5/2000	Carp	Whole	10.5		1.676			
2000039-S09	10/5/2000	Carp	Whole	11.4		1.037			
2000039-S10	10/5/2000	Carp	Whole	19.3		4.67			
2000039-S11	10/5/2000	Walleye	Whole	8.45		0.635			
2000039-S12	10/5/2000	Walleye	Whole	4.25		1.095			
2000039-S13	10/5/2000	Walleye	Whole	6.1		1.042			
2000039-S14	10/5/2000	Walleye	Whole	6.65		1.771			
2000039-S15	10/5/2000	Walleye	Whole	6.05		4.481			
2000039-S16	10/5/2000	Walleye	Whole	5.55		1.409			
2000039-S17	10/5/2000	Walleye	Whole	5.45		0.773			
2000039-S18	10/5/2000	Walleye	Whole	7.1		1.164			
2000039-S19	10/5/2000	Walleye	Whole	7.6		0.698			
2000039-S20	10/5/2000	Walleye	Whole	4.9		0.841			
92046-S01	6/4/1992	Walleye	Whole	6.5	0.964	1.22845			0.964
92046-S02	6/4/1992	Walleye	Whole	5.55	1.381	1.70605			1.381
92046-S03	6/4/1992	Walleye	Whole	7.45	1.042	1.34805			1.042
92046-S04	6/4/1992	Walleye	Whole	10.35	1.331	1.61175			1.331

92046-S05	6/4/1992	Walleye	Whole	4.9	1.244	1.63515				1.244
92046-S06	6/4/1992	Walleye	Whole	7.25	0.837					0.837
92046-S07	6/4/1992	Walleye	Whole	9.55	1.119					1.119
92046-S08	6/4/1992	Walleye	Whole	6.65	0.954					0.954
92046-S09	6/4/1992	Walleye	Whole	6.7	1.251					1.251
92046-S10	6/4/1992	Walleye	Whole	7.95	1.793					1.793
92046-S12	6/4/1992	Carp	Whole	15.4	1.455					1.455
92046-S14	6/4/1992	Carp	Whole	16.7	9.265					9.265
92046-S15	6/4/1992	Carp	Whole	11.1	1.242					1.242
92046-S16	6/4/1992	Carp	Whole	8.1	1.77					1.77
92046-S17	6/4/1992	Carp	Whole	10.2	0.741					0.741
92046-S18	6/4/1992	Carp	Whole	12.4	0.394					0.394
92046-S20	6/4/1992	Carp	Whole	18.9	3.088					3.088
92046-S21	6/4/1992	Carp	Whole	10.8	2.997					2.997
92046-S22	6/4/1992	Carp	Whole	15.2	1.385					1.385
92046-S23	6/4/1992	Carp	Whole	17.5	9.112					9.112
94041-S01	4/20/1994	Walleye	Whole	4.05	3.32					3.32
94041-S02	4/20/1994	Walleye	Whole	4.15	1.3					1.3
94041-S03	4/20/1994	Walleye	Whole	3.1	1.8					1.8
94041-S04	4/20/1994	Walleye	Whole	2.55	1.19					1.19
94041-S05	4/20/1994	Walleye	Whole	6	3.19					3.19
94041-S06	4/20/1994	Walleye	Whole	9.7	1.52					1.52
94041-S07	4/20/1994	Walleye	Whole	7.7	1.82					1.82
94041-S08	4/20/1994	Walleye	Whole	6.3	1.85					1.85
94041-S09	4/20/1994	Walleye	Whole	8.8	1.68					1.68
94041-S10	4/20/1994	Carp	Whole	9.3	1.36					1.36
94041-S11	4/20/1994	Carp	Whole	14.2	1.31					1.31
94041-S12	4/20/1994	Carp	Whole	13.9	1.04					1.04
94041-S13	4/20/1994	Carp	Whole	12.4	0.382					0.382
94041-S14	4/20/1994	Carp	Whole	10.1	1.33					1.33
94041-S15	4/20/1994	Carp	Whole	9.9	1.08					1.08
94041-S16	4/20/1994	Carp	Whole	9.4	1.03					1.03
94041-S17	4/20/1994	Carp	Whole	8.75	0.9					0.9
94041-S18	4/20/1994	Carp	Whole	29	5.57				3.93	1.64
94041-S19	4/20/1994	Carp	Whole	11.3	2.07					2.07
94041-S20	4/20/1994	Walleye	Whole	3.2	1.75					1.75
97026-S01	4/28/1997	Walleye	Whole	3.45	0.948					0.948
97026-S02	4/28/1997	Walleye	Whole	4	2.011					2.011
97026-S03	4/28/1997	Walleye	Whole	3.75	2.057					2.057
97026-S04	4/28/1997	Walleye	Whole	5.7	0.846					0.846
97026-S05	4/28/1997	Walleye	Whole	4.3	2.126					2.126
97026-S06	4/28/1997	Walleye	Whole	4.2	0.885					0.885
97026-S07	4/28/1997	Walleye	Whole	10.6	1.16					1.16
97026-S08	4/28/1997	Walleye	Whole	6.2	0.857					0.857
97026-S09	4/28/1997	Walleye	Whole	6.95	1.057					1.057

97026-S10	4/28/1997	Walleye	Whole	4.15	1.87				1.87
97026-S11	4/28/1997	Yellow Perch	Whole	2.45	0.08				0.08
97026-S12	4/28/1997	Yellow Perch	Whole	2.4	0.071				0.071
97026-S13	4/28/1997	Yellow Perch	Whole	2.45	0.081				0.081
97026-S14	4/28/1997	Yellow Perch	Whole	2.75	0.085				0.085
97026-S15	4/28/1997	Yellow Perch	Whole	2.35	0.082				0.082

Literature Search: Non-cancer Health Effects of TEQ's

A literature search was conducted to look at the current information in regards to non-cancer health effects of dioxins and dioxin-like compounds. EPA should look at the current information on these non-cancer effects and reference them in their HHRA as possible effects of dioxins. All literature is from January 2000 to the present time. The possible effects range from birth defects and reproductive effects to immunologic and psychological effects.

Two separate literature searches were conducted, biological and medical searches. Both produced articles showing the same thing: there is plenty of research out there to show that dioxins have an abundance of possible non-cancerous effects. The articles found include peer reviewed articles, consultations, and surveys of dioxin effects. EPA needs to recognize some of the current research in the HHRA.

Connecticut Watershed information: floodplains and sediment samples-

The sediment sampling effort was focused on MA, with only a modest amount of sampling in CT. The following table summarizes the data from the records on the sediment sample results used in the HHRA. It is clear that the majority of the data are from historical samples, obtained by GE, and not an independent contractor, and not by EPA or EPA contractor. The samples provide very little data on the greatest part of the river, a few samples from behind the dams and virtually no information on the backwaters and small tributaries.

Summary of total PCB in Housatonic River Sediment/Backwater

Reach	Number of Samples
10	80
11	16
12	78
13	41

Depth	Number taken at depth in 2001
0-.5	23
0-.25	3
0-.45	1
.5-.75	4

14	172
15	148
16	17
Total	552

.5-1	6
0-.417	1
0-.834	1
2.5-3	1
2-2.5	1
1-1.5	3
Total	44

Year	Number of Samples
1972	2
1973	3
1974	3
1975	3
1976	3
1977	2
1979	1
1980	146
1986	100
1992	147
1998	78
1999	20
2001	44
Total	552

2 samples taken behind Bull's Bridge Dam
2 samples taken behind Great Falls Dam
3 samples taken behind Blackberry Dam

Floodplain Information-

Searches on the issue of floodplains in the Housatonic watershed in CT revealed a variety of information on official flood warnings, reports of official proceedings and news stories of floods. Furthermore, the CT official web site lists the Housatonic valley as a flood prone area and a large percentage of the area as floodplain.

The following stories are included in full at the end of the comments, and only described here:

"A mostly miserable March brought snowfall, flooding": The month of March began with heavy snowfall and quickly warmed up to more spring like conditions, resulting in flooding.

"A Rainy Time of the Year…": Temperatures far below normal and heavy rain during the month of June cause discomfort.

"After the Rainfall: Flooding, Accidents": High precipitation results in dangerous conditions including flooding, freezing, and motor vehicle accidents.

“Center School Project up for debate”: A school located in the Housatonic flood plain is denied land use because of it’s location.

“Drip Drop, Drip Drop! Square One Opens”: Flooding delays opening of the Stratford Theater, repair costs are high.

“Flood Statement”: A National Weather Service Statement from March 23, 2003 warning of flooding from Ashley Falls, Massachusetts to Derby, Connecticut.

“Flood Statement”: Same as above but not as detailed.

“National Weather Service, Albany, NY”: A National Weather Service Statement from April 1, 2003 warning of flooding around the Housatonic River.

“Spring’s quick onset puts bulge in waterways Melting, rainstorms send Housatonic over it’s banks”: With a quick transfer from winter to spring, melting snow and ice, and severe rainstorms cause the Housatonic to flood rapidly.

“Kent seeks consensus on fate of school”: Kent Center School is located in the Housatonic flood plain and restrictions prevent it from receiving proper funding, a public forum meets to discuss and plan, hopefully to sway a school board vote and renovate/expand or move the school.

Fish Consumption: Sustenance Fishing

The fish and waterfowl consumption as an exposure route has a number of problems related to the estimates of consumption, types of food consumed, cooking methods, persons affected, and justice issues. Some of these items are also covered in the comments on the appropriate Volume.

The estimates do not include consumption of catfish (brown bullheads), carp, eel, turtles, only have a minor consideration of amphibian (frog) consumption, and the fowl consumption rates are based on a restricted database. There are no data on other terrestrial animals living in the watershed, such as squirrels, raccoon, pheasant, bear, other animals. No estimates examine the consumption of plants such as fiddleheads and mushrooms from the area.

In personal conversations with MS Gail Harrison, vice chair of the Schaghticoke Tribe of Kent, Connecticut, Ms. J. Herkimer noted that concerning consumption, the Trial members regularly consumed catfish and carp, they baked the fish whole in a coating of river bottom mud, that this was a regular meal (3-4 times per week) and that other food items form the river area included: eel, frog, turtle, squirrel, raccoon, duck, goose, turkey, mushrooms, fiddleheads, other greens, deer (including all parts) and tee bark. These diet elements have not been included in the consumption estimates.

Three efforts are needed to correct this limitation. First, EPA needs to interview members of the Schaghticoke Tribe, as described in the HHRA. Second, collect more data either in the coming season or from historical information. Third, use other (more conservative) assumptions for estimating amphibian, fish and fowl consumption.

HHRA HRI Volume 1 Specific Comments

ES-11, paragraph 5: "Both the RME and CTE cancer risks from tPCBs due to fish consumption are well above the EPA risk range, both in the two areas evaluated in Massachusetts and the areas in Connecticut. Risks from tPCBs in the areas in Massachusetts range from approximately 1E-03 to 1E-02, with tPCB risks in Connecticut approximately an order of magnitude lower. In Massachusetts, data were available to calculate TEQ risk in addition to tPCB risk. Combining TEQ risk with tPCB risk approximately doubled the cancer risk calculated for tPCBs alone. Cancer risks from tPCBs due to waterfowl consumption are above the EPA risk range, with RME risks of 1E-03. Including both tPCBs and TEQ increases the risk significantly, to 2E-02."

These risk estimates are underestimates, according to the HHRA, and if the additional uncertainties and omissions are taken into account. The following are some but not all of the factors omitted from the quantitative estimates of risk: non-cancer effects of TEQ's; effects on the fetus; effects on children 0-1 yr; higher cancer rates due to the higher CSF; downstream risks in CT; effects from consumption of other wildlife (pheasant, bear); risks excluded due to waterfowl consumption; risks from cultural practice that increase exposures; risks to Native Americans; effects from low levels of multiple chemicals (pesticides, metals, PAH's, other organics) that are not included in the final assessment. When these and other factors are taken into account, the contamination of the Housatonic river poses even greater levels of unacceptable risks (cancer and non-cancer) to the residents of both Massachusetts and Connecticut.

ES-15, paragraph 2: non-cancer HIs from waterfowl consumption… no citation

ES-18, paragraph 2: evaluation of free-range poultry vs. combined poultry… no citation of research

ES-20: Only individual exposure scenarios were evaluated in this HHRA; the HHRA needs to evaluate multiple exposure scenarios in combination.

1-2, lines 3-9: discusses the various pathways of exposure evaluated. Inhalation is excluded.

2-1, lines 15-19: "During Aroclor production, small amounts of furans (but not dioxins) were also formed and were present in the commercial product at parts per million (ppm) concentrations (ATSDR, 2000, 99-0756; Erickson, 2001, 99-

1128). Heating PCBs, either at high temperatures, or at lower temperatures for longer periods of time, also results in the formation of furans (Erickson, 2001)."

This phenomenon has been described before (see EPA, 2000, the Dioxin Reassessment and IARC, 1997 in addition to Erickson,2001), and the present reviewers agree entirely with this point. Are there any data from GE or Monsanto concerning the levels of furans in the PCB's?

2-4, lines 9-12: "(EPA, 2003b, 99-1240; 2003c, 99-1241; 1999, 99-0106; 1996) that reflect the mode of action differences. The carcinogens evaluated in this report have
CSFs evaluated using linear extrapolations to low doses."

These reviewers agree that the linear extrapolation to low dose is the correct method to use here.

2-5, lines 11-14: "The 1999 Guidelines currently serve as EPA's interim guidance to EPA risk assessors preparing cancer risk assessments (EPA, 2001c, 99-1126). IRIS (EPA, 2003a)"

Although EPA used this Draft Cancer Risk Assessment Guidance that is not yet final, and is only in draft form, EPA failed to use the Draft Dioxin Reassessment, in the same status. EPA needs to use the CSF from the Dioxin Reassessment.

2-7, lines 7-10: The CSF for TCDD used is from 1997, there is a more recent CSF as of 2000 that was used on page 2-33 lines 14-21.

2-10, lines 13-14: "van der Plas et al. (2000) concluded that the tumor promotion potential of PCBs might be underestimated by the TEQ approach alone."

The present reviewers agree that this observation by van der Plas is an important one and that EPA must address this underestimate in some fashion. Several methods exist to compensate for the underestimate of risk. None are used at present and EPA should identify the options and select the best.

2-16, lines 15-18: Dioxin-like compounds are not quantitatively evaluated in this assessment due to a lack of RfD. This problem is elaborated below, and cannot be overstated. The only method that EPA has given for dealing with this tremendous gap is to state that the risks are greater because of this gap. More is required in the analysis or decision and evaluation phases.

2-32, line 25 to 2-33, line2: Discusses prenatal exposure to PCBs and dioxins but the HHRA itself never evaluates in utero exposure limits.

2-33, lines 14-21: The CSF for TCDD used if the 2000 value, when previously in the text (2-7), the 1997 value was used.

3-4, lines 8-9: "PCB data collected by EPA were used in the initial Phase 1 screening analysis, as the GE data had not been fully evaluated at the time of the implementation of Phase 1."

This section assumes that the data set of EPA is sufficient for screening purposes- and covers the area in sufficient area, distribution and intensity that there are no gaps. Essentially, the screening needs to insure that there are no false negatives on account of the data. The HHRA must not eliminate an area, a route, a scenario, etc. from consideration because the data are not complete. Despite the large number of samples, the fact is that the distribution of contamination is uneven in this large geographic area. Thus, one of the uncertainties that is inherent in the whole assessment is that something will be missed. The means of compensating for this uncertainty is to build additional conservatism into the process.

3-8 end to 3-9, line 10: "Therefore, Reach 9 was eliminated from further consideration due to direct contact exposure. There are no floodplain or riverbank soil samples collected in Connecticut because of the lack of PCB contamination in these media in the upstream reach (Reach 9), the limited amount of floodplain in Connecticut, and the known relationship between sediment concentrations and associated floodplain concentrations derived using the concentrations measured upstream."

The paucity of data on floodplains in Connecticut is not a valid reason to discount or not consider the direct contact exposure route. The Connecticut portion of the Housatonic River has substantial floodplain, including in residential areas of Kent CT and river bank where sport fishing is common. These areas that have historically flooded undoubtedly contain contaminants from upriver that must be sampled.

4-1, lines 13-15: "Phase 1 was conducted to eliminate from further consideration those properties that had PCB concentrations below levels of concern. In the Phase 1 screening evaluation, all areas in Reaches 9 through 17 were eliminated from consideration."

The HHRA admits to having few samples in the Connecticut reaches and also states that there is little floodplain in Connecticut. The error is twofold: 1) there is enough floodplain in Connecticut to serve as an exposure scenario and to sample, the documentation for which is provided above; and 2) sufficient documentation exists on the flooding in the Connecticut portion of the river that the matter deserves serious investigation. EPA and GE have collected few samples from the floodplain in CT, and before the floodplain in CT is discounted, those data need to be augmented with a serious sampling effort at the expense of the responsible party, GE.

4-3, lines 14-15: In reviewing the risk of direct contact, only PCBs and dioxins/furans were considered. All other chemicals were eliminated from the quantitative risk characterization. Why were multiple chemical exposures not considered?

4-5, section 4.4.1: Identification of Potentially Exposed Human Populations mentions that a risk assessment was conducted on adult and children farmers, but in table 4-13, RME and CTE values were only given for adults.

4-6 to 4-7: "Evaluation of the activity with the greatest exposure was performed to ensure that the assessment was protective of all activities that might reasonably occur in the exposure area. In addition, several exposure areas were divided into subareas based on the observation that distinct activities could occur at different locations within the exposure area. In these cases, a risk assessment was conducted for the activity in the subarea. In addition, a risk assessment was conducted for the exposure area as a whole. Exposure was assumed to occur randomly across an EA or subarea. However, a number of these EAs and subareas are large, and, if an individual's actual exposure occurs primarily to areas of higher contamination, risks may be underestimated."

Table 4-5: No young child (child with no age definition) RME and CTE are listed for noncancer dose calculation for the residential scenario.

Table 4-12: No young child RME and CTE are listed for dose calculation for the sediment exposure scenario.

Table 4-13: No child RME and CTE are listed for dose calculation for the farmer scenario.

Section 4: (Direct Contact) No mention or report is used in regards to in utero exposure for pregnant women.

Section 5: Fish and Waterfowl Consumption: There is no evaluation of the consumption patterns or cultural practices of the Schaghticoke Tribe. The HHRA does acknowledge that this specific exposure needs evaluation, (page 4-16 of Vol. IV, Appendix C), but there are no data provided on the Schaghticoke.

5-12, lines 8-11: "Risks from in utero exposure cannot be evaluated quantitatively at this time due to limited dose-response information. The potential for these risks represents a significant uncertainty with respect to toxicity, as discussed in the uncertainty section (Section 7 of Appendix C) and in Section 5.7."

Does the reference on line 11 refer to Appendix C, Section 7, pages 7-14 that The problem with EPA's explanation is that the Draft Final Guidance for

Carcinogen Risk Assessment (EPA, 2003a) and the Cancer Susceptibility from Early-Life Exposure to Carcinogens (EPA, 2003b) both offer some alternative to no quantitative analysis at all. The HH RA could assume a greater dose, greater dose-response function slope, and extend the exposure period. The *in utero* fetus could also be treated separately in one or more scenarios to estimate risks, using cancer data from the IRIS exposure data or the non-cancer from the data presented by Schantz et al. (2003). This problem is repeated in the other sections of the HH RA.

5-12, lines 18-21: "The child receptor was evaluated quantitatively by integrating exposure from waterfowl consumption as a child with exposure as an adult for cancer risks, and separately for noncancer hazards. As in the risk analysis for fish, potential risks
due to in utero exposure represent an uncertainty and are included in Section 5.7."

This section repeats the problem of not quantifying the *in utero* exposures.

5-13: "Because of the sample size and the relevance of the population included in the study, a large survey of Housatonic area residents conducted by MADPH (MADPH, 1997) was selected as the basis for calculating the relative frequency of consumption of each species."

The problem with this procedure is that the survey was restricted to Massachusetts and does not account for any differences in fish consumption in Connecticut, whether due to geography, social issues or fish presence/absence. The HH RA needs to have some Connecticut data.

The subsequent section on Page 5-13 demonstrates that even with the MADPH survey noted above and in the HH RA, there are data for only a few species. This offers little information on consumption patterns that might be (or were) applicable if the fish consumption advisories were not in place.

5-31, lines 27-33: "*Skin-off Fillets*—Fish samples collected in Reaches 5 and 6 and Rising Pond were analyzed for contaminants after the skin was removed. However, comparison of PCB concentrations in fish analyzed as skin-on and skin-off fillets (see Section 7 of Appendix C) indicates 2- to 4-fold higher PCB concentrations in skin-on fillets. This would lead to a 2- to 4-fold underestimate in this risk assessment of cancer risk and noncancer hazard for those individuals who routinely consume both the fillet and the skin. The underestimate of risk would be somewhat lower for individuals who prepare and consume only some of their meals with the skin-on fillet. The risk would be expected to be higher still for those who prepare a "whole" fish for consumption or use the whole fish in other preparations, such as making stock, as whole fish have higher tPCB concentrations than skin-on fillets."

The HHRA needs to include additional quantitative analysis for skin–on cooking as well as the skinless fillet cooking option. There is no assurance that everyone who consumes fish from this river in the future (or at present, for that matter) will always remove the skin from the fish before cooking.

5-33, lines 27-42: "*Dioxin Reassessment: Cancer Risks*—EPA recently reviewed available toxicity studies on 2,3,7,8-TCDD and other dioxin-like compounds. A preliminary draft document (EPA, 2000, 99-1081) presents EPA's scientific reassessment of the health risks resulting from exposure to these compounds. This document has undergone review by the public as well as EPA's Science Advisory Board (SAB) (EPA, 2001, 99-1125) but has not been formally released by EPA. In its reassessment, EPA recommended a revised CSF of 1E+06 $(mg/kg\text{-}d)^{-1}$ to estimate upper-bound cancer risk for background intakes, and incremental intakes above background, of 2,3,7,8- TCDD and other dioxin-like compounds. Use of this recommended CSF would result in an approximately 6-fold increase in the cancer risk estimates associated with 2,3,7,8-TCDD and other dioxin-like compounds. Thus, the current CSF for 2,3,7,8- TCDD used in this assessment may underestimate potential risks. However, as with all upper-bound slope factors used to calculate cancer risks, EPA believes that the true risks are likely to be less than the risks estimated with the upper-bound slope factor. It is not possible to estimate how much less, but risks to some individuals could be zero."

The HHRA must include estimates of cancer risks using the latest EPA cancer slope factor for dioxin from the Dioxin Reassessment (US EPA 2000). At a minimum, the HHRA has to use both CSF's. There must be something more than a statement in the specific and uncertainty sections to the effect that the CSF should be 6 times greater and leave it to the reader to assume that the latest scientific data were not used and actually predict cancer risks six times higher. Apart from the fact that this decision undermines the document and makes EPA seem somewhat disingenuous for not using their own best information, it is internally inconsistent. The HHRA uses the latest cancer risk assessment guidelines that are also in Draft form, but fails to use the latest version of the dioxin CSF because it too is in draft form. EPA has to deal with both of these in the same way, and cannot different criteria to the decision to use of the two documents.

5-35, lines 11-12: "two different Monte Carlo simulation approaches: one-dimensional Monte Carlo analysis (1-D MCA) and microexposure event Monte Carlo analysis (MEE)."

The Monte Carlo simulations are helpful in knowing where the uncertainties lie in the models. Still, outliers will occur and the models, Monte Carlo simulations and RME will not capture the individuals and conditions that do predictably occur.

5-37, lines 8-11: There is a typo here. The text refers to tables 6-10 and 6-12, should refer to 5-10 to 5-14

Section 5: (Fish and Waterfowl Consumption) This section has no young child (<1 yr old) or *in utero* dose calculations.

Section 6: (Agricultural Product Consumption) No young child or *in utero* dose calculations.

7-6, section 7.3: Mentions the possibility of exposure to COPCs from more than one pathway, but then goes on to mention that the risk of consumption of animal products is so high that the addition of risk from direct contact makes an insignificant difference in the overall risk calculation. This conclusion at least implies that those people who do not consume fish or waterfowl do not have enough of a dose of COC's, PCB's and TEQ, to have a health effect. Non-consumption pathways are not the only exposures and only threats. What about those who are exposed through sediment and water, and other pathways, without consuming fish or waterfowl? Do other combinations of pathways effect the overall risk calculations? The base body burden of the population in this area (MA and CT) is also higher than the average US population (which itself is not insignificant, according to the latest CDC report on chemicals in the US population, CDC, 2003). The Massachusetts Department of Public Health Report on PCB's in the Housatonic area shows elevated base body burdens of PCB's (MADPH, 1997).

HHRA HRI Volume III Specific Comments-

Summary:

This volume (and the accompanying figures in the companion volume) gives a detailed consideration of the risks from contaminants in the soil, sediment and water of the Housatonic River, in the Rest of the River segment. The material is summarized in the main report (Volume I) and this volume is the basis for the material in Volume I.

This section of the Human Health Risk Assessment focuses on the upper reaches of the river, especially Reaches 5 and 6. Risks in the down stream reaches (7-9) are evaluated in much the same fashion as for reaches 5 and 6. The Connecticut portion of the river is not evaluated in this phase of the risk assessment because the Phase I risk assessment did not estimate sufficiently high risks to warrant further evaluation in this more detailed Phase II.

The Direct Contact Risk Assessment uses a scenario-based evaluation, as the Human Health Risk Assessment does in its entirety.

General:

Several aspects of this section of the HH risk assessment are commendable and must be noted for the record.

- a great deal of data was used in evaluating direct contact risks;
- the assumptions are articulated, for the most part;
- the individual exposure scenarios are realistic
- the inclusion of both high-exposure and "average" (central tendency) exposures gives a more complete perspective than the "average" exposures alone that are not representative of more serious risks;
- treating each exposure area (EA) individually was a tremendous effort and conducted quite carefully to show those areas that are known to have higher or lower risks;

Several areas in the HH risk assessment for direct contact are problematic and need to be addressed in finalizing this phase, in order to provide a protective cleanup of the Housatonic River and floodplains.

The scenarios do not include a worker or other highly exposed resident of Pittsfield who also fishes and hunts. This person will have an existing body burden, and if living in a home near the center of the site in Pittsfield, will continue to experience exposures through incidental exposures. Hence, the residents of Pittsfield near the plant and the workers need to be included as a separate and more highly exposed group. This analysis could be accomplished in several ways, one being to lower the HQ by half of what it is in the present analysis. Another approach would be to add an additional exposure, mathematically the same effect as decreasing the HQ. For cancer risks, the additional risks from these other exposures can be factored in by changing the "acceptable risk" level from the usual range of 1/10,000 to 1/1,000,000 to an order of magnitude higher, or restricting the acceptable range to the highest end of the usual range.

There is no risk evaluation for fetuses. Residents will include pregnant women and the fetuses will be exposed along with the mothers. These exposures need to be included in the risk evaluations.

The RA does not explain or adequately justify using the EPA Region 9 (California) Preliminary Remediation Goals (PRG's) for assessing risks in the Housatonic R watershed and environs. This use becomes problematic because a number of risk management decisions are based on these PRG's from Region 9. Specifically, in section 2, page 2-5, line 24, the document notes that these PRG's were used as one basis for excluding chemicals from further consideration in the Phase II RA. EPA must justify the use, giving the assumptions and details of how and why these values are the best for the Housatonic River area.

Page 2-14 and 2-15 top—These explanations are simply not adequate to justify excluding chromium, thallium and 6 PAH's from the risk analysis. The RA gives no health or toxicological or other substantive reason why these were excluded, in spite of the fact that the concentrations exceeded background and/ or other screening levels. These chemicals should not have been dropped from the RA.

The Risk Characterization, page 5-1, does not use TEQ's to estimate risks from dioxin, or any risks other than tPCB. The explanation is that the PCB data are so much more abundant than data for other chemicals, which is certainly a true statement. But these other chemical do pose risks and in cases where the levels of these other chemicals are above screening levels or exceed background, will add additional health effects to the exposed populations. These health effects must be considered in the RA.

The Risk Characterization follows the previous analysis and does not account for health effects of metals and PAH's in the characterization. These add to the total load of toxic chemicals of the exposed population and EPA has to include these in the analysis.

The RA continues to rely on the Region 9 PRG's as the basis for excluding chemicals from evaluation. And even when the levels of some chemicals exceed the Region 9 PRG's, the chemicals were still excluded for other reasons (shown in Table 2-4). One of the reasons for exclusion is low frequency of sites where the level exceeded the screening level. This reasoning is not protective unless EPA proposes to fence the areas where these chemicals are found. Post them with signs in perpetuity and insure that restrictions are placed on the property deeds.

On page 5-4, lines 28-29, the RA notes that one PAH exceeds the PRG by 177 fold, yet this PAH is excluded. Continuing on, on page5 5-5 and 5-6, further exclusions do not explain how the hundred-fold greater level is not a health threat.

HHRA HRI Volume IV-

General Comments:
The HHRA does a good job of considering the risks from fish and waterfowl consumption, using more recent and complete data, attempting to apply the most site-specific information, and using several analytical tools to estimate dose, and risks.

Notwithstanding the strengths, the risk assessment has certain problems and seems to underestimate risks in several key areas. Several of these underestimates and problems are noted below under specific comments. The most serious issues are noted in the overall HHRA comments. Problems with this section include:

- No quantification of subsistence fishers
- Lack of data on COPC's in CT
- No quantification of fetal exposures and effects
- Consumption of other wildlife (bears, pheasant) from the Housatonic system were not considered
- The fish consumption data are not from this specific system, yet there is no additional consideration or safety factor for higher consumption
- Higher fish consumption rates by subsistence immigrant anglers
- Higher PCB levels (and thus dose) in fish cooked whole.

The HHRA on fish and waterfowl consumption uses fish consumption estimates from a survey in Maine, and the resulting rates presented in Table 4-17 (32 g/d RME; 15 g/d

adult; 16 and 8 g/d child age 1-6) are substantially lower than the maximum rates in the EPA Exposure Factors Handbook and even from the other estimates of fish consumption in the other sources cited in the HHRA. The Monte Carlo analysis does not make up for this difference, and EPA should add a calculation at higher fish consumption rates.

One factor that is completely omitted from the analysis is the estimates for anglers who are from other cultures. The HHRA does mention Native Americans, the Schaghticoke Tribe, but not immigrants; neither is taken into account in the quantitative estimates. According to a report on immigrants, 54% were consuming fish from local waters, including the Housatonic River (see story taken from the Hartford Courant, Appendix to comments). These immigrants are consuming various fish, such as carp that may have been customary in their native country (mostly Asian) and are the more heavily contaminated fish (i.e. carp). The estimates of fish consumption in CT are based on trout and a limited sample, not carp and not immigrant subsistence anglers. The estimates of fish consumption in CT need to include a higher level of fish consumption, a wider range of fish and the higher doses associated with both of these conditions.

Specific Comments:

ES-6, line 4-5: In Connecticut, data are only available for tPCB, and thus tPCBs are the sole COPC in fish consumption. It is not clear that the uncertainty analysis incorporates this data gap. Several approaches are available to EPA, including additional research on all COPCs, assumptions that the other COPC's are present at similar levels as the lowest reach for which EPA has data, and increasing the final risk estimates by a factor of ten to account for this uncertainty.

ES-9, line 4-8: Subsistence fishing has not been considered in this report. Reference is made to the Schaghticoke Tribe living in the Housatonic River watershed, and to some need to consult the Tribe for cultural practices, but this step was not completed. This issue needs to be addressed in reference to consumption and food preparation processes by this Tribe.

ES-9, line 14-16: *In utero* exposure is not evaluated because of limited dose response information. This needs to be addressed.

2-18 (2.3.4.1.1) Species most likely consumed from the Housatonic were based on reports from 1988-1997. There needs to be more recent surveys in regards to what and how much is consumed by those who obtain fish from the River.

3-15, line 12: Source is cited as EPA, 2002b but this source does not exist in the literature cited.

4-14, line 17-23: Only two types of waterfowl are used from a small location in Massachusetts. There are no samples taken from Connecticut, and it is not clear if there were samples taken from waterfowl that consume aquatic invertebrates (which would

have a higher concentration of contaminants). Samples need to be taken from more types of water fowl at more locations on the River, or the analysis should adjust for this uncertainty by adding a higher dose and exposure level from the consumption of waterfowl.

4-16, lines 8-10 "Thus, subsistence anglers are not quantitatively assessed. However, EPA is concerned about the consumption rates associated with the Schaghticoke Tribe and will be discussing them further with the Tribal members."

No further mention of the Schaghticoke tribe (apart from a repetition of this phrase) is found in the HHRA. It seems that EPA has not completed this step and the HHR is incomplete without this discussion and inclusion of the Tribal fish consumption issues, especially in light of Executive Order 12898 concerning environmental justice.

Page 4-27, lines 9-14 The HHRA notes the consideration or use of three studies for fish consumption, one by MADPH, one by ChemRisk under contract to GE, one by the Connecticut Department of Environmental Protection, but added a fourth study – the Maine Anglers Survey.

Appendix: Article from the Hartford Courant on subsistence fishing by immigrant anglers.
Health threat posed by some fish in state Eating some fish caught in state could result in health problems:[A Edition]
DANIEL P. JONES, Courant Environment Writer. Hartford Courant. Hartford, Conn.: Jan 8, 1993. pg. A.1

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Abstract (Article Summary)
The Connecticut Federation of Refugee Assistance Associations, a refugees' support organization, and state and local health authorities have prepared advisories in the Vietnamese, Cambodian, Lao and Hmong languages spoken in Southeast Asia. The warnings have been distributed mainly to anglers along the Housatonic River, where the state advises that most species of fish should not be eaten because of PCB contamination. [Edith Pestana] said part of her study will be to determine exactly how various minority groups cook and eat the fish. Eating an entire fish, for example, which Pestana said is a common cultural practice among Asians, can be more risky than eating only the fillet meat because of how PCBs accumulate.
Monday, on an unusually balmy January afternoon, two fishermen were trying their luck on the bank of the channel that connects the Connecticut River to Wethersfield Cove, where Hispanics, Poles and Vietnamese and other Asians catch carp, catfish and other species.
Full Text (1144 words)

Recent Asian refugees and other poor state residents trying to feed themselves and their families could be endangering their health by eating tainted fish they catch in the state's rivers and Long Island Sound, health experts have warned.

In several places around the state, anglers are eating their catch despite official advisories from state health authorities that consumption should be limited or avoided because the fish could be tainted with pollutants, such as polychlorinated biphenyls, known as PCBs.

In some cases, the anglers could be unaware of the warnings because there are no signs or because of language barriers. Others are believed to be consuming the fish because of a combination of poverty and culture.

Some of the groups that health authorities are most concerned about are recent immigrants and refugees from Southeast Asia, including Vietnamese, Cambodians and Laotians, who are fishing for carp and other species that pose a risk because of their PCB content.

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"I know that some refugees fish here {in Connecticut}, but I hope that they don't fish in that particular river," said Valyna Loeu, a social worker at the West Hartford-based refugee assistance organization. She said the organization translated health advisories into the four languages.

Several years ago, environmental officials surveyed Housatonic anglers and found that 54 percent of those using bait were eating their catch.

"Nobody knows the exact magnitude of the problem," said Edith Pestana, an epidemiologist with the state Department of Health Services who has tried to gather information about people who might be at risk because they fish to obtain food.

Later this year, Pestana plans to conduct research with graduate students from Yale University's school of public health to determine the hazards faced by people who consume PCB-tainted fish.

Not much attention has been paid to the problem, she said, because it is not a priority.

"It's not a sexy topic, like radon or like lead poisoning is right now," Pestana said. She compared it with the problem of migrant farm workers' being exposed to pesticides -- authorities know there is a problem, but have little documentation to show its extent or severity.

The manufacture of PCBs has been outlawed in the United States, but they remain in wide use as coolants, insulators and fire retardants in electrical equipment and other machinery. The chemicals, which usually are in an oily liquid form, tend to stick to organic matter in the sediment of river bottoms and accumulate in ever greater concentrations as larger species of animals eat smaller ones on the food chain. The chemicals concentrate in fatty tissues, such as the skin of fish and their belly flesh.

In humans, they can cause liver damage, reproductive disorders and chloracne, a persistent skin rash. PCBs also are suspected of causing cancer.

The danger to subsistence anglers is not an immediate one, but rather a risk that consuming enough fish over time can raise PCB levels to dangerous concentrations in the body.

Pestana said part of her study will be to determine exactly how various minority groups cook and eat the fish. Eating an entire fish, for example, which Pestana said is a common cultural practice among Asians, can be more risky than eating only the fillet meat because of how PCBs accumulate.

"That's why we have cleaning and cooking guidelines," said William Hyatt, supervisor of fisheries management at the state Department of Environmental Protection.

Removing the skin, dark meat, belly flaps and lateral "line" area of a fish, and broiling or grilling it so that the fat drips away, can reduce PCB levels by 50 percent, according to the advisory issued jointly by the health and environmental departments.

In bodies of water other than the Housatonic, advisories apply to certain species of fish and to various groups of people. Connecticut River carp should not be eaten by pregnant women, nursing mothers, children under 15 and women who intend to become pregnant soon. All others should limit their consumption and use the preparation tips.

The same advisory applies to bluefish and striped bass caught in Long Island Sound and nearby waters.

Some states advise people to limit meals of certain species of fish suspected of being tainted by PCBs to no more than one meal a week. Hyatt said Connecticut does not have a suggested limit for fish consumption, "but you don't want to subsist on these fish."

People continue to eat the fish on a regular basis, health authorities suspect, either because they are poor or for cultural reasons.

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Walter Janowski of Hartford, a Polish immigrant who spoke very little English, said he had caught and eaten a fish last week, and had been eating fish from the river on a regular basis. He said he was not sure what kind of fish it was.

At first, he thought he was being asked to produce his fishing license. He was surprised and appeared distressed when told about the state's advisories about the potential danger.

The state's official consumption advisory for the Connecticut River pertains to carp, because of PCBs.

"People catch carp, pike and catfish here," said Jose Perales of Wethersfield, who was fishing in the channel beneath the I-91 overpass.

"I've seen Hispanics like myself bring them home. I have friends who eat them; they make fish soup out of them," said Perales, who said he knew vaguely of an official warning about the fish there.

Vietnamese anglers take home their catches from the cove, Perales said. Once, he said, he had asked the anglers about their ethnic background out of curiosity.

He said he throws his catches back. "I tried one a long time ago and it tasted like gasoline," Perales said.

Some of the other state locations where poor anglers are likely to be catching potentially tainted fish include:

- Keeney Cove, which juts from the Connecticut River into Glastonbury and East Hartford.
- Lake Zoar and Lake Lillinonah, impoundments on the Housatonic River, where PCB contamination is the worst in the state because of historic dumping in the river by General Electric in Massachusetts.
- The mouth of the Quinnipiac River in New Haven, where anglers from a large Puerto Rican population and from the black community fish from bridges.
- The waters off Bridgeport, where people fish for eels and other species.

HHRA HRI Volume V-

This analysis omits the entire watershed in Connecticut, despite the fact that there are farms and farmland in Connecticut. EPA needs to obtain at least the basic information on agricultural land in the Housatonic River watershed in Connecticut.

The database for this analysis is modest. EPA needs to have more data that cover a greater area and more time.

This section would be one place to consider the health of farm animals and domestic pets that are otherwise excluded from the entire assessment, both human health and ecological.

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Floodplain Articles-

Title: A mostly miserable March brought snowfall, flooding
Monday, April 14, 2003
By Mari Russano

A long winter was predicted by legendary groundhog Punxsutawney Phil on Feb. 2, and the Farmer's Almanac agreed. Winter would linger for more than a few weeks and a nor'easter would strike the region the first week of March.
As predicted it arrived on March 7, dumping 6.8 inches in Shelton and 7.3 inches in Waterbury.
Cars spilled onto parallel roads in Middlebury and Waterbury, after falling snow and zero visibility led to a 25-car pileup on Interstate 84 that shut down both directions and stopped traffic for more than five hours. Several inches of snow accumulated by the start of rush hour.
"As I got on I saw the brake lights of all the cars ahead of me. I went to hit my brakes and it was just a sheet of ice," said Charles Brush of Southbury. "Then I was sliding, everyone was sliding. They were crashing in front of me, crashing behind me ... cars were spinning around everywhere. It was pretty crazy for a while."
Two cars slipped under a tractor trailer and a police cruiser slammed into the back of one of them.
Warmer than normal temperatures occurred the first weekend in March, then came colder weather and snow, making it feel more lion than lamb.
The large amounts of snow and rain this year, along with a false start to spring in mid-March, helped cure the drought problem to the point of flood warnings.
Waters on the Housatonic River in Gaylordsville area of New Milford hit 8.7 feet or 7 feet above flood stage, according to the National Weather Service in Albany, N.Y.
Minor flooding was reported the day before when water reached 8 feet. In Falls Village, the level rose another foot to flood stage two days later. The area around Stevenson Dam in Oxford was also expected to flood, with levels reaching 12.4 feet or 1.4 feet above flood stage. Flood warnings were in effect for the Housatonic from Bulls Bridge to Derby.

Several factors combine to cause the sudden spring rush. Unusually warm temperatures melted a 2-foot-deep snowpack still covering hilly areas and combined with more than an inch of rain that fell across the Northwest Corner.
"We saw a very quick transition from winter to spring," said Mike Thomas, a meteorologist at the Connecticut Weather Center in Danbury. "Nothing was melting before March 14, and now we are into a warm pattern when it will melt quickly."
Temperatures remained in the 50s toward the end of March, normally temperatures are in the 40s at this time of year.
A light frost in the ground, which was protected by a deep blanket of insulating snow against bitter cold, has already melted in some areas.
Moisture that would ordinarily run off is now seeping into the ground. Based on data from 1850 to 1998, the number of major flood disasters has grown significantly each decade. Six cases in the 1950s, seven in the '60s, eight in the '70s, 18 in the '80s and 26 in the '90s.
Overall, global precipitation is estimated to have increased by 2 percent since 1900, though not on a uniform basis. Floods, especially flash floods, kill more people each year than hurricanes, tornadoes, wind storms or lightning. In the 1980s, floods replaced lightning as weather's big killer.
During the 1990s floods killed an average of 110 people a year in the United States, about 50 percent of them died in their vehicles or while trying to flee from cars or trucks stalled in rising water. "Flash floods" get their name because the water rises quickly, maybe an hour or less after heavy rain begins.
"March is notorious for extremes," said Bill Jacquemin, meteorologist at Connecticut Weather Center in Danbury. "We usually get the storms of historic proportions in March, including the Blizzard of 1888."
Last year, March was sunny and dry; this year it was more cloudy and wet.

Title: A RAINY TIME OF THE YEAR . . .:[STATEWIDE Edition]
SUSAN CAMPBELL, Courant Staff Writer. Hartford Courant. Hartford, Conn.: Jun 7, 2000. pg. A.3
People:Ferrara, Mike, Augeri, Karen, Javinett, Robert Author(s):SUSAN CAMPBELL, Courant Staff Writer Section:MAIN (A)
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Abstract (Article Summary)
If it felt awfully raw, there's a reason. The high by late afternoon was 54 degrees, a full 24 degrees below the normal high (78 degrees) for June 6. By Tuesday evening, more than 2 inches of rain had fallen along Connecticut's coast, and flood warnings had been issued for the Housatonic River and low-lying areas in Litchfield County.
Karen Augeri, who works in marketing at Middlefield's Lyman Orchards, said that farm—one of the country's oldest—opened to pick-your-own-strawberry customers Monday. They closed Tuesday because of the rain, partly for the comfort of their customers, but mostly because no one comes out to pick in the heavy rain anyway.

Full Text (434 words)

Cold and wet? You bet, but not enough to set a record Tuesday.
And despite a stretch of chilly temperatures and periods of heavy rain, the strawberries are ripe on the vine, and local park maintenance people are preparing public pools for the summer onslaught.
"This is the basic up-and-down we always have this time of year," said Mike Ferrara, meteorologist at the Weather Center at Western Connecticut State University in Danbury. "It's spring. People act like it's never happened before."
Temperatures Tuesday didn't wander far from 52 degrees, as recorded at Bradley International Airport in Windsor Locks at 5 p.m. The record low was 37 degrees.

But if it felt awfully raw, there's a reason. The high by late afternoon was 54 degrees, a full 24 degrees below the normal high (78 degrees) for June 6. By Tuesday evening, more than 2 inches of rain had fallen along Connecticut's coast, and flood warnings had been issued for the Housatonic River and low-lying areas in Litchfield County.
Ferrara said temperatures would have to dip at least to 38 today - - far cooler than predicted—to match the record low set in 1958.
Karen Augeri, who works in marketing at Middlefield's Lyman Orchards, said that farm—one of the country's oldest—opened to pick-your-own-strawberry customers Monday. They closed Tuesday because of the rain, partly for the comfort of their customers, but mostly because no one comes out to pick in the heavy rain anyway.
The farm, with its 300 acres of strawberries, apples and the like, is experiencing an average strawberry crop, Augeri said. Early May's hot weather accelerated berry growth, but the recent cold slowed it down.
The employees of East Hartford's parks maintenance department spent much of Tuesday indoors because their regular work—maintaining fields and park grounds—was washed out.
"I have guys in here doing equipment maintenance," said Robert Javinett, operation supervisor for park maintenance. "The guys would rather be outside, but you could catch pneumonia outside."
There'll be plenty of time to be outside.
"With all the rain, guess what we'll be doing," Javinett said. "This grass is going to grow."
Iffy weather is particularly hard on his department's part- timers.
"We have just enough work to keep our regular staff busy when it rains," Javinett said. "We had four part-timers we had to send home this morning. If we have a rainy, wet summer, it will be miserable for part-timers. They're not going to work very much."
Today, Tuesday's puddles should dry rather quickly under mostly sunny skies and temperatures in the 70s.

Title: AFTER THE RAINFALL: FLOODING, ACCIDENTS:[STATEWIDE Edition]
Accidents were reported in North Canaan, Ledyard, Westbrook, Middlefield, Norwich and other towns, and roads were closed to traffic in some areas because of ice or flooding.Navigating ice-covered roads was a problem in many areas Saturday. Route 7 in New Milford was closed between Bridge Street and Sunny Valley Road, about three- quarters of a mile, because of minor flooding from the Housatonic Riverand icy conditions.The National Weather Service issued a flood warning for the Farmington River in Simsbury, near Routes 10 and 185, on Saturday afternoon. The river, at 11.8 feet, was approaching the flood stage of 12 feet, and it was expected to rise to 12.5 feet in the afternoon before falling below flood stage Saturday night.
Copyright @ The Hartford Courant 1996)The torrential rains of Friday left a wet, slippery legacy of flooding, power failures and accidents in the state on Saturdy. Accidents were reported in North Canaan, Ledyard, Westbrook, Middlefield, Norwich and other towns, and roads were closed to traffic in some areas because of ice or flooding.Navigating ice-covered roads was a problem in many areas Saturday. Route 7 in New Milford was closed between Bridge Street and Sunny Valley Road, about three- quarters of a mile, because of minor flooding from the Housatonic River and icy conditions.The National Weather Service issued a flood warning for the Farmington River in Simsbury, near Routes 10 and 185, on Saturday afternoon. The river, at 11.8 feet, was approaching the flood stage of 12 feet, and it was expected to rise to 12.5 feet in the afternoon before falling below flood stage Saturday night. The north branch of the Park River in Hartford barely surpassed flood stage, resulting in minor flooding in lowland areas. In Canton, police urged motorists driving at night on Route 179 north of Route 44 to use caution because of ice on the road caused by runoff.

The state Department of Transportation spread salt and sand in the area Saturday and pushed snowbanks back from the road, but icy conditions are expected to persist because of flooding and freezing on the roadway.
Three one-car accidents required the use of helicopters to transport the injured. Nathan Charter, 22, of Goshen, was injured when the Nissan he was driving went out of control on Route 4 in Goshen after hitting a patch
of ice at about 2 a.m. The car struck a snowbank and rolled over, police said. Charter was extricated from the car by the Goshen Fire Company and taken by helicopter to Hartford Hospital, with possible head injuries and

a broken arm. He was listed in stable condition Saturday. In North Canaan, Kena D. Fischer, 27, of North Canaan, was taken to Hartford Hospital after her car, traveling north on Route 7, slid on an icy patch, hit a utility pole and ended up in a snowbank shortly before 5 a.m., police said. She was reported in stable condition Saturday.

Three people were injured, one critically, in a one-vehicle accident on Boswell Avenue in Norwich shortly before midnight Friday. The driver, June C. Eng, 40, of Norwich, was charged with second-degree assault with a
motor vehicle, operating under the influence, risk of injury to a minor and transporting a child under the age of 4 without a child automobile restraint. Eng and the two passengers, Qin Chu, 39, and her daughter, Michelle
Chu, 3, were taken to Backus Hospital in Norwich. Eng and Qin Chu were treated and released, police said. Michelle Chu was taken to Hartford Hospital by helicopter because of severe neck injuries. She was listed in
critical condition Saturday night. Eng's vehicle hit a utility pole at 11:49 p.m., police said. She was being held in lieu of $10,000 bail, with a court date set for Tuesday. Police received numerous calls about flooded basements. There were water-main breaks on Hayes Drive in Windsor and on Brookside Place in West
Hartford, a Metropolitan District Commission spokesman said, and crews were dispatched to repair them on Saturday afternoon. Northeast Utilities spokesman Bruno V. Ranniello said Saturday evening that power had been restored to all but 50 of the 43,000 customers affected by the storm

Title: Center School project up for debate

Saturday, October 20, 2001

By David Parker

KENT — For the third time this year, residents debated Friday whether to renovate and expand Kent Center School.

A crowd of about 50 was roughly a quarter the size of that which filled Town Hall last October, when the school issue shared the agenda with the funding of Schaghticoke tribal issue research. But the questioning and debate was more extensive than at that meeting, or at a second town meeting this past June prior to a second referendum. That second vote halted the renovation project approved last fall.

Board of education and building committee members explained the $8.2 million proposal that goes to referendum for a third time next Friday. And, while some residents voiced their approval, a number strongly opposed it.

Karren Garrity of the board of education cited educational needs the project is designed to meet. Many of those needs and the facilities needed to meet them weren't even imagined when the elementary school's last renovation and expansion was conceived and executed 30 years ago, Garrity said. She cited foreign language, special education and computer learning as examples.

Teachers and students are handicapped by lack of space and by outdated facilities, Garrity said. "There are no frills in this plan," she added.

Nancy O'Dea Wyrick of the building committee described how plans developed over two years by dozens of volunteers from all sectors of community life meet the educational needs. She noted the plan's new computer lab, expanded media center, classroom space for foreign language, an expanded cafeteria, more rooms for small group instruction and conferences, and safer bus, car and foot traffic patterns.

Paul Abbott of the board of finance sketched the project's likely impact on taxes. The key figure to keep in mind, he said, is 2.2 mills. That's the amount funding the renovation would add to tax bills annually for the next 20 years, if bonded at 5 percent interest.

The impact on his own tax bill, Abbott said, would be about $310 a year. Later in the meeting he noted that while that would total more than $6,000 over 20 years, it is well below what most residents pay for cable television here.

There were numerous questions about the school's location in the Housatonic River flood plain, a location that bars the town from getting state aid for its renovation and was cited by the planning and zoning commission in denying, as it did before previous votes, its advisory approval of the project.

Several residents voiced outright opposition, arguing that building a new school on another site would be a better choice.

Fran Besmer, a KCS parent, opposed renovating the old school, a project she predicted would probably cost more than the price guaranteed by the general contractor. A new school would not only be a better long term value, Besmer said, its construction would not disrupt the learning and teaching process as a renovation would.
Tom Sides, business officer at Kent School, likewise argued for building a new school. He said the apparently "sure thing" being proposed in the renovation actually carries many uncertainties. Among these he cited the risk that some systems or elements in the renovated building might need to be repaired or replaced before 20 years are up. Another risk, he said, is that a sudden demographic change brought by rapid development pressure from the south could produce more than the renovated school's 460-pupil capacity in those same 20 years. And a new school, Sides argued, could be built for far less than the cost recently estimated by a study committee.
The committee, using a construction estimate of $177 per square foot, plus site acquisition and development costs, debt service, design fees, contingencies and the inflation factor, said last month a new school might cost $22 million, or $16 million after state aid.
Members of the school and building committees rose to challenge Sides' calculations, and the debate continued two hours after the meeting began.
Voting in the Oct. 26 referendum will be on the Town Hall voti

Title: Drip Drop! Drip Drop! Square One Opens
E. Kyle Minor. New York Times. (Late Edition (East Coast)).New York, N.Y.: Feb 4, 2001. pg. 14CN.8
Author(s):E. Kyle Minor
Column Name:Theater
Section:14CN
Publication title:New York Times. (Late Edition (East Coast)). New York, N.Y.: Feb 4, 2001. pg. 14CN.8
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Abstract (Article Summary)
Later that morning, Mr. [Leo Lohrman] returned to the theater, where he met Mr. [Tom Holehan] and Barbara Cairney, producer of "The Rainmaker." The situation looked grim.
Ms. Cairney and Mr. Lohrman believe the town should be liable for the damages. They referred to a pump the town installed after a devastating flood in 1979. The two contend that since the pump failed, the town is responsible. Mark Barnhart, the town manager of Stratford, disagreed. "There is a pump station at Ferry Creek, up where the Long Island Sound and Housatonic River converge," Mr. Barnhart said. "That storm wasn't at high tide, which activates the pump.
Leo Lohrman, left, and Tom Holehan at a rehearsal for "The Rainmaker." Below, Mr. Lohrman adds a finishing touch to the Stratford lobby.; An overturned organ and scattered debris were just a fraction of the damages the Stratford Theater sustained in August because of flooding. (Photographs by Thomas M. McDonald for The New York Times)
Full Text (812 words)

WHEN Jim Bozzi, who plays the con man Starbuck in "The Rainmaker," calls to the heavens to let it pour, the director and the producer of the play at Stratford's Square One Theater cross their fingers and say: "Don't take him seriously." That is because last summer the heavens did open up and four inches of rain fell during a 15-minute deluge. The Stratford Theater, where Square One has performed for 10 years, was one of several buildings on Main Street that filled up like an unattended bathtub. As a result of the flooding on Aug. 11, Square One had to delay the opening of its 11th season, which was set for early November. Instead, the theater opened Jan. 26 with "The Rainmaker." "We're lucky we could salvage our season at all," Tom Holehan, the director of "The Rainmaker," said. "The theater was submerged in five feet of water." The Stratford Theater, which is owned by the Scottish Rite Building Corporation, an affiliation of the Masons, was one of only a few buildings on the block that carried flood insurance. Leo Lohrman,

president of the corporation, said the repair costs have reached $300,000. “We’ve never had flooding in here since we bought the building in 1990,” Mr. Lohrman said as he hung pictures on the lobby wall. “They said it was the type of flood you only see one in every 500 storms. I hope we never see another one.”
Mr. Lohrman said he received a call about the flooding from a friend at 1 a.m. “I knew it was raining hard, but I never thought it would flood the building,” he said. But when Mr. Lohrman arrived at Main Street—a two-minute drive that stretched into a 20-minute slog—he saw firefighters and police officers rescuing a van bogged down in five feet of water. “The policeman said to come back tomorrow,” Mr. Lohrman said. “He said it was too dangerous to go in.” Later that morning, Mr. Lohrman returned to the theater, where he met Mr. Holehan and Barbara Cairney, producer of “The Rainmaker.” The situation looked grim. “The water was gone,” Ms. Cairney said, “but there was mud all over the place. The piano was smashed. The organ was smashed. The stage was warped and the smell was awful. I didn’t think we’d have a season. Leo assured us that we would be able to open by late January though.”
Ms. Cairney and Mr. Lohrman believe the town should be liable for the damages. They referred to a pump the town installed after a devastating flood in 1979. The two contend that since the pump failed, the town is responsible. Mark Barnhart, the town manager of Stratford, disagreed. “There is a pump station at Ferry Creek, up where the Long Island Sound and Housatonic River converge,” Mr. Barnhart said. “That storm wasn’t at high tide, which activates the pump. “After the flood in 1979, drainage along Main Street was improved. But there is no pump there.”
The Masons and Square One were more concerned with restoring the building than assessing blame. “We had close to 1,000 subscriptions already and we’re afraid that if we didn’t produce a season we’d lose our audience,” Ms. Cairney said. “We also received donations from several people. We didn’t want to disappoint them.”
First the walls, the stage and the seats had to be replaced. New stage curtains were bought. The theater’s most expensive property, the lighting equipment, was spared, Mr. Holehan said. “Fortunately our lighting system is on the second floor,” he said. “We never lost power, which saved us.” Mr. Lohrman’s prediction that the season would start by late January came true. “We’re still putting the seats in and fixing the lobby,” he said, “but we’ll get it done.”
Mr. Holehan, remarking that the theater now smelled “like a new car,” said that he, Ms. Cairney and his cast and crew were now comfortable enough to laugh at their play selection. “Believe me, we have talked about the irony of doing ‘The Rainmaker,’ “ he said. “Even more ironic, we originally selected ‘The Rainmaker,’ ‘Earth and Sky’ and ‘Over the River and Through the Woods.’ “Mr. Holehan said that he replaced “Over the River” with “Later Life,” when the Polka Dot Playhouse in Bridgeport announced the same play earlier in its season. “We won’t laugh too hard until ‘The Rainmaker’ closes,” Mr. Holehan said.
“The Rainmaker” continues through Saturday at Square One Theater at the Stratford Theater, 2242 Main Street, Stratford. Information: (203) 375-8778.
[Photograph] Leo Lohrman, left, and Tom Holehan at a rehearsal for “The Rainmaker.” Below, Mr. Lohrman adds a finishing touch to the Stratford lobby.; An overturned organ and scattered debris were just a fraction of the damages the Stratford Theater sustained in August because of flooding. (Photographs by Thomas M. McDonald for The New York Times)
http://proquest.umi.com/pqdweb?index=61&sid=1&srchmode=1&vinst=PROD&fmt=3&startpage=-1&clientid=61601&vname=PQD&did=000000067725662&scaling

The New York Times, March 14, 1987 v136 p30(L) col 4

(17 col in) Title:Flood risk threatens bargain homes. Journal:The New York Times Pi:March 14, 1987 v136 p30(L) col 4 (17 col in) Author:Madden, Richard L.
Flood risk threatens bargain homes. (along Housatonic, Connecticut) Richard L. Madden.

Title: FLOOD STATEMENT
NATIONAL WEATHER SERVICE ALBANY NY
1152 AM EST SUN MAR 23 2003
.THE RIVER FLOOD WARNING CONTINUES FOR THE HOUSATONIC RIVER FROM ASHLEY FALLS MASSACHUSETTS TO DERBY CONNECTICUT WITH MINOR FLOODING EXPECTED.
FOR THE HOUSATONIC RIVER AT FALLS VILLAGE...MINOR FLOODING IS OCCURRING...WITH A STAGE OF 8.0 FEET MEASURED AT 11 AM SUNDAY. MINOR

FLOODING IS FORECAST...WITH A MAXIMUM STAGE OF 8.1 FEET AT 7 PM MONDAY...WHICH IS 1.1 FEET ABOVE FLOOD STAGE. THE STAGE EXCEEDED THE FLOOD STAGE OF 7.0 FEET AT 4 AM SATURDAY. AT 8.0 FEET...WATER REACHES RIVERSIDE ROAD AT KENT SCHOOL AND FLOODS THE PICNIC AREA ALONG ROUTE 7 NEAR HOUSATONIC MEA DOWS. THIS ALSO PUTS SEVERAL INCHES OF WATER IN THE FIELDHOUSE AT KENT SCHOOL.
FOR THE HOUSATONIC RIVER AT GAYLORDSVILLE...MINOR FLOODING IS OCCURRING...WITH A STAGE OF 9.3 FEET MEASURED AT 9 AM SUNDAY. THE STAGE EXCEEDED THE FLOOD STAGE OF 8.0 FEET AT 1 PM FRIDAY. AT 9.0 FEET...WATER REACHES STORES IN THE BIG Y PLAZA.
FOR THE HOUSATONIC RIVER AT STEVENSON DAM...MINOR FLOODING IS OCCURRING...WITH A STAGE OF 11.6 FEET MEASURED AT 11 AM SUNDAY. MINOR FLOODING IS FORECAST...WITH A MAXIMUM STAGE OF 12.5 FEET AT 1 AM MONDAY...WHICH IS 1.5 FEET ABOVE FLOOD STAGE. THE STAGE EXCEEDED THE FLOOD STAGE OF 11.0 FEET AT 8 PM SATURDAY. AT 11.5 FEET... WATER BEGINS TO REACH THE MAPLES AREA OF SHELTON.
UPSTREAM AT GREAT BARRINGTON MASSACHUSETTS...THE HOUSATONIC RIVER WAS AT 6.5 FEET AT 10 AM SUNDAY. THAT WAS 3.5 FEET BELOW THE 9 FOOT FLOOD STAGE. THE LEVEL AT GREAT BARRINGTON WILL REMAIN AROUND 6.5 FEET TROUGH MONDAY. AT 5.0 FEET...WATER STARTS TO FLOOD LOW LYING FIELDS SOUTH OF GREAT BARRINGTON.
DO NOT DRIVE OVER FLOODED ROADS OR BRIDGES...STAY TUNED TO NOAA WEATHER RADIO...THE OFFICIAL VOICE OF THE NATIONAL WEATHER SERVICE... FOR LATER DEVELOPMENTS...VISIT OUR WEB PAGE AT W W W...DOT WEATHER... DOT G O V...FOR MORE DETAILS.

				7 PM	1 AM	7 AM	1 PM	7 PM
LOCATION	STG	STG	DAY TIME	SUN	MON	MON	MON	MON
HOUSATONIC RIVER								
GT BARRINGTON	9	6.5	SUN 10 AM	6.5	6.5	6.4	6.5	6.5
FALLS VILLAGE	7	8.0	SUN 11 AM	8.1	8.0	8.0	8.0	8.1
GAYLORDSVILLE	8	9.3	SUN 09 AM	9.2	9.1	9.0	9.1	9.2
STEVENSON DAM	11	11.6	SUN 11 AM	12.4	12.5	12.4	12.5	12.3

Title: FLOOD STATEMENT
NATIONAL WEATHER SERVICE ALBANY NY
813 PM EST SUN MAR 23 2003
.THE RIVER FLOOD WARNING CONTINUES FOR THE HOUSATONIC RIVER FROM ASHLEY FALLS MASSACHUSETTS TO DERBY CONNECTICUT WITH MINOR FLOODING EXPECTED.
UPSTREAM AT GREAT BARRINGTON...THE HOUSATONIC RIVER WAS AT 6.6 FEET AT 6 PM SUNDAY. THAT WAS 3.4 FEET BELOW THE 9 FOOT FLOOD STAGE. THE LEVEL AT GREAT BARRINGTON WILL REMAIN BETWEEN 6.5 AND 7.1 FEET THROUGH MONDAY. AT 5 FEET...WATER STARTS TO FLOOD LOW LYING FIELDS SOUTH OF GREAT BARRINGTON.
FOR THE HOUSATONIC RIVER AT FALLS VILLAGE...MINOR FLOODING IS OCCURRING, WITH A STAGE OF 8.0 FEET MEASURED AT 7 PM SUNDAY. MINOR FLOODING IS FORECAST...WITH A MAXIMUM STAGE OF 8.3 FEET AT 7 PM MONDAY...WHICH IS 1.3 FEET ABOVE FLOOD STAGE. THE STAGE EXCEEDED THE FLOOD STAGE OF 7.0 FEET AT 4 AM SATURDAY. AT 8 FEET...WATER REACHES RIVERSIDE ROAD AT KENT SCHOOL AND FLOODS THE PICNIC AREA ALONG ROUTE 7 NEAR HOUSATONIC MEADOWS. SEVERAL INCHES OF WATER ALSO FLOWS INTO THE FIELD HOUSE AT KENT SCHOOL.
FOR THE HOUSATONIC RIVER AT GAYLORDSVILLE...MINOR FLOODING IS OCCURRING, WITH A STAGE OF 9.2 FEET MEASURED AT 5 PM SUNDAY. MINOR FLOODING IS FORECAST...WITH A MAXIMUM STAGE OF 9.4 FEET AT 7 PM

MONDAY...WHICH IS 1.4 FEET ABOVE FLOOD STAGE. THE STAGE EXCEEDED
THE FLOOD STAGE OF 8.0 FEET AT 1 PM FRIDAY. AT 9 FEET...WATER
REACHES STORES IN THE BIG Y PLAZA.
THE HOUSATONIC RIVER AT STEVENSON DAM WAS 10.8 FEET AT 6 PM SUNDAY.
MINOR FLOODING IS FORECAST...WITH A MAXIMUM STAGE OF 11.2 FEET AT 1
AM TUESDAY...WHICH IS 0.2 FEET ABOVE FLOOD STAGE. THE STAGE
WILL RISE BACK ABOVE THE FLOOD STAGE OF 11 FEET AT 4 PM MONDAY. THE
STAGE WILL FALL BELOW FLOOD STAGE AT 7 AM TUESDAY. AT 11.5 FEET...
WATER BEGINS TO REACH THE MAPLES AREA OF SHELTON.
DO NOT DRIVE OVER FLOODED ROADS OR BRIDGES...STAY TUNED TO NOAA
WEATHER RADIO...THE OFFICIAL VOICE OF THE NATIONAL WEATHER SERVICE...
FOR LATER DEVELOPMENTS...VISIT OUR WEB PAGE AT W W W...DOT WEATHER...
DOT G O V...FOR MORE DETAILS.

FLD OBSERVED FORECAST

1 AM 7 AM 1 PM 7 PM

LOCATION STG STG DAY TIME MON MON MON MON
HOUSATONIC RIVER
GT BARRINGTON 9 6.6 SUN 06 PM 6.7 6.6 6.8 7.1
FALLS VILLAGE 7 8.0 SUN 07 PM 8.0 7.9 8.1 8.3
GAYLORDSVILLE 8 9.2 SUN 05 PM 9.1 9.0 9.2 9.4
STEVENSON DAM 11 10.8 SUN 06 PM 10.6 10.3 10.6 11.0

Title: NATIONAL WEATHER SERVICE ALBANY NY
653 AM EST TUE APR 01 2003
.THE NATIONAL WEATHER SERVICE HAS ISSUED A FLOOD WARNING FOR THE
HOUSATONIC RIVER BETWEEN ASHLEY FALLS MASSACHUSETTS AND CORNWALL
BRIDGE CONNECTICUT WITH MINOR FLOODING EXPECTED.
FOR THE HOUSATONIC RIVER AT FALLS VILLAGE...MINOR FLOODING IS OCCURRING,
WITH A STAGE OF 7.3 FEET MEASURED AT 6 AM TUESDAY. MINOR FLOODING IS
FORECAST...WITH A MAXIMUM STAGE OF 7.4 FEET AT 8 AM WEDNESDAY...WHICH IS 0.4
FEET ABOVE FLOOD STAGE. THE STAGE EXCEEDED
THE FLOOD STAGE OF 7 FEET AT 1 AM MONDAY. AT 7 FEET...THE RIVER BEGINS TO
FLOOD THE PARK ABOVE FALLS VILLAGE DAM. WATER ALSO FLOWS INTO THE FIELDS
OF WHITE HOLLOW FARMS NEAR LIMEROCK ROAD IN CANAAN AND REACHES THE EDGE
OF THE CANAAN HIGH SCHOOL FIELDS. THIS CREST COMPARES TO A PREVIOUS CREST OF
7.4 FEET ON APR 16 2001. DO NOT DRIVE OVER FLOODED ROADS OR BRIDGES...STAY
TUNED TO NOAA WEATHER RADIO...THE OFFICIAL VOICE OF THE NATIONAL WEATHER
SERVICE...FOR LATER DEVELOPMENTS.

(Article Summary)

Rain and melting snow kept a flood watch in effect throughout Connecticut Monday. A flood warning remained for the towns along the lower Housatonic River, which was at least 6 inches over flood stage, according to theNortheast River Forecast Center in Bloomfield. Northeast Utilities gradually opened flood gates wider at its two Housatonic dams—the Shepaug Dam in Southbury and the Stevenson Dam in Oxford, which is the last dam before the Housatonic empties into Long Island Sound. Two of Hartford's pumping stations—in South and North Meadows—went into action last Wednesday and they have been sporadically pumping since. A third pumping station—at Keeney Lane in downtown Hartford—is scheduled to start up today, [Husein Osman] said. Copyright @ The Hartford Courant 1993)About an inch of rain caused minor flooding in many parts of the state and sent the Housatonic River over its banks again Monday, but the rain is expected to end today. The Hartford area Monday received about three-quarters of an inch of rainfall by 5 p.m., with another half inch expected before showers end this morning, said Ann Fitzgerald, associate director of the Weather Center at Western Connecticut State University. But rain, or possibly snow, is expected to return Friday, when cold air will keep high temperatures in the 30s,

Fitzgerald said. Rain and melting snow kept a flood watch in effect throughout Connecticut Monday. A flood warning remained for the towns along the lower Housatonic River, which was at least 6 inches over flood stage, according to the Northeast River Forecast Center in Bloomfield. Northeast Utilities gradually opened flood gates wider at its two Housatonic dams—the Shepaug Dam in Southbury and the Stevenson Dam in Oxford, which is the last dam before the Housatonic empties into Long Island Sound. None of the state's other major rivers reached flood stage. The River Forecast Center said the Farmington River reached 10 feet in Simsbury and was expected to rise to 11 ½ feet this morning. Flood stage in Simsbury is 12 feet. The Connecticut River is far below its flood stage of 16 feet in Hartford and is not expected to approach it soon. "The Connecticut is much slower to respond ... because it has a much larger drainage area, going up to Canada," said Thomas Econopouly, a hydrologist with the River Forecast Center. As of Monday evening, the Connecticut River in Hartford was at 9.4 feet on the National Weather Service scale and rising. Cooler weather expected later this week should slow or even stop the rise in the river, Flood Control Engineer Husein Osman said. The highest the river has reached in the past decade is 31 feet, in May 1984. Two of Hartford's pumping stations—in South and North Meadows—went into action last Wednesday and they have been sporadically pumping since. A third pumping station—at Keeney Lane in downtown Hartford—is scheduled to start up today, Osman said. Many towns reported minor flooding of roads and homes, but no significant problems. In Stafford, however, town highway crews were expected to work overnight to keep some roads open, said Public Works Director David Hirsch. Water was bubbling up through a manhole cover on Main Street because storm drains had reached capacity. Highway crews were out working on several dirt roads that threatened to wash out because of flooding. State roads reported no flooding problems, though crews were out on I-91 and I-84 filling what has become an unusually large number of potholes this year, said Rick DeMatties, storm monitor for the state Department of Transportation. Courant staff writers Gary Duchane and Eric Lipton contributed to this story

Title: Spring's quick onset puts bulge in waterways Melting, rainstorms send Housatonic over its banks

Saturday, March 22, 2003

By Brigitte Ruthman

Gale Courey Toensing / Republican-American

A burst of spring, delivering a torrent of water from melting snow and rain, is swelling area rivers and streams to flood stage or near it.

By 1 p.m. today, waters on the Housatonic River in the Gaylordsville area of New Milford are expected to hit 8.7 feet, or 7 feet above flood stage, according to the National Weather Service in Albany, N.Y. Minor flooding was reported Friday afternoon in Gaylordsville, when the water reached 8 feet. At 9 feet, the river reaches stores in the nearby Big Y plaza, according to the weather service. In Falls Village the level was expected to rise another foot to flood stage by Sunday.

The area around Stevenson Dam in Oxford also is expected to flood, with levels reaching 12.4 feet, or 1.4 feet above flood stage, according to the weather service. Flood warnings were in effect Friday for the Housatonic from Bulls Bridge to Derby. Official warnings for other spots, such as the Pomperaug and Blackberry rivers, had not been issued as of Friday night, but water ran fast everywhere, swelling rivers and creeks and turning low-lying areas into ponds. Several factors combined to cause the sudden spring rush. For the Housatonic, for example, unusually warm temperatures melted a 2-foot-deep snowpack still blanketing hilly areas and combined with more than an inch of rain that fell across the Northwest Corner overnight Thursday. Ice jams also caused water to pool in areas along the river. "The Housatonic River at Great Barrington, Mass., has been rising steadily in the melting snow," said Tom Scrom, a hydrologist with the weather service. "That, combined with the heavy rainfall overnight, will cause the water level to rise through Sunday. The flow is heavier as you go downstream." "We saw a very quick transition from winter to spring," said Mike Thomas, a meteorologist at the Connecticut Weather Center in Danbury. "Nothing was melting before March 14, and now we are into a warm pattern when it will melt quickly."

Temperatures are expected to remain in the 60s into next week. Normally, temperatures are in the 40s at this time of year. More of the runoff than usual will be absorbed into the ground. A light frost in the ground, which was protected by a deep blanket of insulating snow against bitter cold, has already melted in some areas. Therefore, moisture that would ordinarily run off is now seeping into the ground. In Falls Village on Friday, the water cascaded over the rocks at Great Falls. Connecticut Light & Power Co.'s

information line warned visitors Friday to be alert for changing conditions. “The river is doing exactly what it is supposed to do at this time of the year,” First Selectman Lou Timolat said. “It’s spring runoff.”

Title: Kent seeks consensus on fate of school
Voters to consider options at forum tonight
Monday, October 01, 2001
By David Parker © 2001 Republican-American

KENT — A much-publicized public forum tonight will discuss the future of Kent Center School. The session begins at 8 p.m. in the Kent Center School gymnasium. A townwide mailing alerting residents to the session went out last week. The 330-student, K-8 elementary school has been the focus of debate for more than a year, with a plan for its renovation and expansion first approved in referendum last October, then stopped by a second vote this June. Three boards — selectmen, finance and education — are co-sponsoring tonight’s meeting, which they hope will serve two functions. First, they say, it will give residents information about two different options for meeting the school’s needs for more and better space. Second, it will provide an opportunity for residents to air their concerns, priorities and questions, officials said. Board of Education members in particular have said they’ll be listening to what’s said, as they face a critical decision Thursday. That’s when the school board is set to vote on whether to affirm its request for a third referendum on the renovation-expansion plan, now priced at $8.2 million. Selectmen and finance members have said they’ll be ready to act immediately on dates for a town meeting and referendum if the school board makes that request. Some in town, however, have said the town would be better served to acquire a new site and build a brand new school, this time out of the Housatonic River flood plain, so that 25 percent state reimbursement would be available. Voters had approved the original plan despite its flood plain location. A committee formed by the school board this summer will report its research on the feasibility and cost of such a project. It will report that those costs might exceed $19 million, before state aid. With Jonathan Costa, an independent facilitator, presiding, those at the forum will also be able to bring other ideas to the discussion. The evening’s format calls for a series of brief presentations at the outset. Board of Education member Peter Goodwin will discuss the educational needs of the school. Then Nancy O’Dea Wyrick of the Kent Center School Building Committee will explain how the renovation plan was developed and how it would meet those needs. Paul Abbott will give a similar presentation regarding plans for a new school. Then George Jacobsen of the Board of Finance will review cost and tax rate implications of each plan, as well as the cost of bringing the existing school up to code if neither plan is approved. The Board of Education, which offered tours of the existing school Sunday, is offering tours today, from 7 to 8 p.m. During school hours, by appointment. for those who call the office at (860) 927-373 to make an appointment.

David Parker / Republican-American
Kent Center School Principal Edward Epstein, right, points out some features of the school to residents Richard and Georgianne Ensign Kent before taking them through the building Sunday afternoon. The Board of Education offered tours of the school, which was last renovated in 1971, prior to a forum tonight on ideas for its future.

Data from CT sediment sampling used to predict risks in the HHRA.

Field Sample ID	Location ID	Date Collected	Depth Interval (feet)	Analyte	Result
071577-1125	CORNWALLBR-CT-DR	15-Jul-77		PCB, TOTAL	0.01
071577-1145	NRCORNWALLBR-CT	15-Jul-77		PCB, TOTAL	0.01
080976-1130	CANAAN-CT-DR	09-Aug-76		PCB, TOTAL	0.07
080976-1330	NWMILFORD-CT	09-Aug-76		PCB, TOTAL	0.09
081976-1015	STEVENSON-CT	19-Aug-76		PCB, TOTAL	0.00
101073-1315	STEVENSON-CT	10-Oct-73		PCB, TOTAL	0.01
101073-1315	STEVENSON-CT	10-Oct-73		PCB, TOTAL	0.01
101772-1515	STEVENSON-CT	17-Oct-72		PCB, TOTAL	0.0
101873-1300	FALLSVILLAGE-CT	18-Oct-73		PCB, TOTAL	0.0

102174-1230	CANAAN-CT-DR	21-Oct-74		PCB, TOTAL	0.1
102174-1530	NWMILFORD-CT	21-Oct-74		PCB, TOTAL	0.1
102274-1650	STEVENSON-CT	22-Oct-74		PCB, TOTAL	0.00
102672-1230	FALLSVILLAGE-CT	26-Oct-72		PCB, TOTAL	0.0
111175-1000	STEVENSON-CT	11-Nov-75		PCB, TOTAL	0.01
112179-1000	PINEGROVE-CT	21-Nov-79		PCB, TOTAL	0.5
120875-1015	CANAAN-CT-DR	08-Dec-75		PCB, TOTAL	0.0
120875-1215	NWMILFORD-CT	08-Dec-75		PCB, TOTAL	0.06
31308	31308	05-Aug-92	0.0 - 0.1	PCB, TOTAL	0.3
31309	31309	05-Aug-92	0.1 - 0.2	PCB, TOTAL	0.1
31310	31310	05-Aug-92	0.2 - 0.25	PCB, TOTAL	0.0
31312	31312	05-Aug-92	0.3 - 0.4	PCB, TOTAL	0
31315	31315	05-Aug-92	0.6 - 0.7	PCB, TOTAL	0.1
31317	31317	05-Aug-92	0.7 - 0.8	PCB, TOTAL	0
31319	31319	05-Aug-92	0.9 - 1.0	PCB, TOTAL	0.0
31320	31320	05-Aug-92	1.0 - 1.1	PCB, TOTAL	0.0
31321	31321	05-Aug-92	1.1 - 1.2	PCB, TOTAL	0.0
31322	31322	05-Aug-92	1.2 - 1.25	PCB, TOTAL	0.2
31323	31323	05-Aug-92	1.2 - 1.3	PCB, TOTAL	0.5
31324	31324	05-Aug-92	1.3 - 1.4	PCB, TOTAL	0.3
31325	31325	05-Aug-92	1.4 - 1.5	PCB, TOTAL	0
31326	31326	05-Aug-92	1.5 - 1.6	PCB, TOTAL	0.2
31327	31327	05-Aug-92	1.6 - 1.7	PCB, TOTAL	0.1
31328	31328	05-Aug-92	1.7 - 1.75	PCB, TOTAL	0.1
31336	31336	05-Aug-92	0.0 - 0.1	PCB, TOTAL	0.0
31337	31337	05-Aug-92	0.1 - 0.2	PCB, TOTAL	0.0
31338	31338	05-Aug-92	0.2 - 0.25	PCB, TOTAL	0.0
31340	31340	05-Aug-92	0.3 - 0.4	PCB, TOTAL	0.0
31343	31343	05-Aug-92	0.6 - 0.7	PCB, TOTAL	0.0
31344	31344	05-Aug-92	0.7 - 0.75	PCB, TOTAL	0.0
31345	31345	05-Aug-92	0.7 - 0.8	PCB, TOTAL	0.0
31346	31346	05-Aug-92	0.8 - 0.9	PCB, TOTAL	0.0
31347	31347	05-Aug-92	0.9 - 1.0	PCB, TOTAL	0.0
31348	31348	05-Aug-92	1.0 - 1.1	PCB, TOTAL	0.0
31349	31349	05-Aug-92	1.1 - 1.2	PCB, TOTAL	0.0
31350	31350	05-Aug-92	1.2 - 1.25	PCB, TOTAL	0.0
31351	31351	05-Aug-92	1.2 - 1.3	PCB, TOTAL	0.0
31353	31353	05-Aug-92	1.4 - 1.5	PCB, TOTAL	0.0
31355	31355	05-Aug-92	1.6 - 1.7	PCB, TOTAL	0.0
31357	31357	05-Aug-92	1.7 - 1.8	PCB, TOTAL	0.0
31359	31359	05-Aug-92	1.9 - 2.0	PCB, TOTAL	0.0
31361	31361	05-Aug-92	2.1 - 2.2	PCB, TOTAL	0.0
31380	31380	05-Aug-92	0.0 - 0.1	PCB, TOTAL	0.2
31382	31382	05-Aug-92	0.1 - 0.2	PCB, TOTAL	0.2
31383	31383	05-Aug-92	0.2 - 0.25	PCB, TOTAL	0.4
31385	31385	05-Aug-92	0.3 - 0.4	PCB, TOTAL	0.3
31386	31386	05-Aug-92	0.4 - 0.5	PCB, TOTAL	0.7

31387	31387	05-Aug-92	0.5 - 0.6	PCB, TOTAL	0.4
31390	31390	05-Aug-92	0.7 - 0.75	PCB, TOTAL	0.3
31392	31392	05-Aug-92	0.8 - 0.9	PCB, TOTAL	0.2
31394	31394	05-Aug-92	1.0 - 1.1	PCB, TOTAL	0.4
31395	31395	05-Aug-92	1.1 - 1.2	PCB, TOTAL	0.4
31397	31397	05-Aug-92	1.2 - 1.25	PCB, TOTAL	0.3
31398	31398	05-Aug-92	1.2 - 1.3	PCB, TOTAL	0
31400	31400	05-Aug-92	1.3 - 1.4	PCB, TOTAL	0
31401	31401	05-Aug-92	1.4 - 1.5	PCB, TOTAL	0.4
31403	31403	05-Aug-92	1.5 - 1.6	PCB, TOTAL	0.5
31404	31404	05-Aug-92	1.6 - 1.7	PCB, TOTAL	0.6
31406	31406	05-Aug-92	1.7 - 1.75	PCB, TOTAL	0.5
31408	31408	05-Aug-92	1.8 - 1.9	PCB, TOTAL	0.4
31410	31410	05-Aug-92	2.0 - 2.1	PCB, TOTAL	0.1
31411	31411	05-Aug-92	0.0 - 0.1	PCB, TOTAL	0
31412	31412	05-Aug-92	0.1 - 0.2	PCB, TOTAL	0.7
31413	31413	05-Aug-92	0.2 - 0.25	PCB, TOTAL	0.3
31415	31415	05-Aug-92	0.3 - 0.4	PCB, TOTAL	0.2
31417	31417	05-Aug-92	0.5 - 0.6	PCB, TOTAL	0.6
31419	31419	05-Aug-92	0.7 - 0.75	PCB, TOTAL	1
31421	31421	05-Aug-92	0.8 - 0.9	PCB, TOTAL	1
31423	31423	05-Aug-92	1.0 - 1.1	PCB, TOTAL	1
31424	31424	05-Aug-92	1.1 - 1.2	PCB, TOTAL	0
31425	31425	05-Aug-92	1.2 - 1.25	PCB, TOTAL	0.1
31426	31426	05-Aug-92	1.2 - 1.3	PCB, TOTAL	0.4
31427	31427	05-Aug-92	1.3 - 1.4	PCB, TOTAL	0.2
31428	31428	05-Aug-92	1.4 - 1.5	PCB, TOTAL	0.0
31429	31429	05-Aug-92	1.5 - 1.6	PCB, TOTAL	0.0
31430	31430	05-Aug-92	1.6 - 1.7	PCB, TOTAL	0.0
31431	31431	05-Aug-92	1.7 - 1.75	PCB, TOTAL	0.0
31433	31433	05-Aug-92	1.8 - 1.9	PCB, TOTAL	0.0
31435	31435	05-Aug-92	2.0 - 2.1	PCB, TOTAL	0.0
31437	31437	05-Aug-92	2.2 - 2.25	PCB, TOTAL	0.0
31452	31452	05-Aug-92	0.0 - 0.1	PCB, TOTAL	0
31453	31453	05-Aug-92	0.1 - 0.2	PCB, TOTAL	0.3
31454	31454	05-Aug-92	0.2 - 0.25	PCB, TOTAL	0
31455	31455	05-Aug-92	0.2 - 0.3	PCB, TOTAL	0.1
31456	31456	05-Aug-92	0.3 - 0.4	PCB, TOTAL	0.6
31457	31457	05-Aug-92	0.4 - 0.5	PCB, TOTAL	0.0
31458	31458	05-Aug-92	0.5 - 0.6	PCB, TOTAL	0.1
31459	31459	05-Aug-92	0.6 - 0.7	PCB, TOTAL	0.5
31460	31460	05-Aug-92	0.7 - 0.75	PCB, TOTAL	0.0
31462	31462	05-Aug-92	0.8 - 0.9	PCB, TOTAL	0.1
31464	31464	05-Aug-92	1.1 - 1.2	PCB, TOTAL	1
31465	31465	05-Aug-92	1.0 - 1.1	PCB, TOTAL	1
31466	31466	05-Aug-92	1.2 - 1.25	PCB, TOTAL	0.2
31467	31467	05-Aug-92	1.2 - 1.3	PCB, TOTAL	0.5

31468	31468	05-Aug-92	1.3 - 1.4	PCB, TOTAL	1
31469	31469	05-Aug-92	1.4 - 1.5	PCB, TOTAL	1
31470	31470	05-Aug-92	1.5 - 1.6	PCB, TOTAL	0.9
31471	31471	05-Aug-92	1.6 - 1.7	PCB, TOTAL	0.0
31472	31472	05-Aug-92	1.7 - 1.75	PCB, TOTAL	0.0
31473	31473	05-Aug-92	1.7 - 1.8	PCB, TOTAL	0.0
31474	31474	05-Aug-92	1.8 - 1.9	PCB, TOTAL	0.0
31477	31477	05-Aug-92	0.0 - 0.1	PCB, TOTAL	0.0
31478	31478	05-Aug-92	0.1 - 0.2	PCB, TOTAL	0.0
31479	31479	05-Aug-92	0.2 - 0.25	PCB, TOTAL	0.0
31481	31481	05-Aug-92	0.3 - 0.4	PCB, TOTAL	0.0
31483	31483	05-Aug-92	0.5 - 0.6	PCB, TOTAL	0.0
31484	31484	05-Aug-92	0.6 - 0.7	PCB, TOTAL	0.0
31485	31485	05-Aug-92	0.7 - 0.75	PCB, TOTAL	0.0
31486	31486	05-Aug-92	0.7 - 0.8	PCB, TOTAL	0.0
31487	31487	05-Aug-92	0.8 - 0.9	PCB, TOTAL	0.0
31488	31488	05-Aug-92	0.9 - 1.0	PCB, TOTAL	0.0
31489	31489	05-Aug-92	1.0 - 1.1	PCB, TOTAL	0.0
31490	31490	05-Aug-92	1.1 - 1.2	PCB, TOTAL	0.0
33751	33751	27-Aug-92	0.0 - 0.2	PCB, TOTAL	0
33752	33752	27-Aug-92	0.0 - 0.1	PCB, TOTAL	0
33753	33753	27-Aug-92	0.1 - 0.2	PCB, TOTAL	
33753	33753	27-Aug-92	0.2 - 0.25	PCB, TOTAL	0.0
33754	33754	27-Aug-92	0.0 - 0.2	PCB, TOTAL	1
33755	33755	27-Aug-92	0.0 - 0.2	PCB, TOTAL	0.4
33756	33756	28-Aug-92	0.0 - 0.2	PCB, TOTAL	0.3
33757	33757	28-Aug-92	0.0 - 0.2	PCB, TOTAL	0.4
33759	33759	28-Aug-92	0.0 - 0.2	PCB, TOTAL	0.2
33761	33761	28-Aug-92	0.0 - 0.2	PCB, TOTAL	0.3
33763	33763	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33764	33764	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33765	33765	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33767	33767	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33768	33768	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33769	33769	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.1
33770	33770	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.1
33771	33771	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.1
33772	33772	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.3
33773	33773	02-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33774	33774	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.1
33776	33776	01-Sep-92	0.0 - 0.2	PCB, TOTAL	0.2
33780	33780	02-Sep-92	0.0 - 0.1	PCB, TOTAL	0.0
33780	33780	02-Sep-92	0.1 - 0.2	PCB, TOTAL	0.0
33780	33780	02-Sep-92	0.2 - 0.25	PCB, TOTAL	0.0
33781	33781	02-Sep-92	0.0 - 0.2	PCB, TOTAL	0
33782	33782	02-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33783	33783	02-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0

33784	33784	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33785	33785	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33786	33786	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.1
33787	33787	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.1
33790	33790	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33791	33791	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33792	33792	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33793	33793	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33794	33794	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33795	33795	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33797	33797	03-Sep-92	0.0 - 0.2	PCB, TOTAL	0.0
33801	33801	04-Sep-92	0.0 - 0.1	PCB, TOTAL	0.0
33801	33801	04-Sep-92	0.1 - 0.2	PCB, TOTAL	0.1
33801	33801	04-Sep-92	0.2 - 0.25	PCB, TOTAL	0.1
57501	31308	01-Jan-86	.875 - .875	PCB, TOTAL	0
57502	31308	01-Jan-86	.792 - .792	PCB, TOTAL	0
57503	31308	01-Jan-86	.625 - .625	PCB, TOTAL	0
57504	31308	01-Jan-86	.375 - .375	PCB, TOTAL	0
57505	31380	01-Jan-86	.125 - .125	PCB, TOTAL	1.1
57506	31380	01-Jan-86	1.04 - 1.04	PCB, TOTAL	2.7
57507	31380	01-Jan-86	1.13 - 1.13	PCB, TOTAL	3.5
57508	31380	01-Jan-86	1.21 - 1.21	PCB, TOTAL	4
57509	31380	01-Jan-86	.958 - .958	PCB, TOTAL	2.3
57510	31380	01-Jan-86	.875 - .875	PCB, TOTAL	1
57511	31380	01-Jan-86	1.29 - 1.29	PCB, TOTAL	4
57512	31380	01-Jan-86	1.38 - 1.38	PCB, TOTAL	4
57513	31308	01-Jan-86	.542 - .542	PCB, TOTAL	0
57514	31308	01-Jan-86	.458 - .458	PCB, TOTAL	0
57515	31380	01-Jan-86	.375 - .375	PCB, TOTAL	1
57516	31380	01-Jan-86	.042 - .042	PCB, TOTAL	1.4
57517	31380	01-Jan-86	.542 - .542	PCB, TOTAL	1
57518	31308	01-Jan-86	.708 - .708	PCB, TOTAL	0
57519	31308	01-Jan-86	.292 - .292	PCB, TOTAL	0
57521	31380	01-Jan-86	.625 - .625	PCB, TOTAL	1
57522	31380	01-Jan-86	.208 - .208	PCB, TOTAL	1.2
57523	31308	01-Jan-86	.958 - .958	PCB, TOTAL	0.5
57524	31308	01-Jan-86	.208 - .208	PCB, TOTAL	0.1
57525	31380	01-Jan-86	.708 - .708	PCB, TOTAL	1
57526	31380	01-Jan-86	.792 - .792	PCB, TOTAL	1
57527	31380	01-Jan-86	.292 - .292	PCB, TOTAL	1
57528	31308	01-Jan-86	1.04 - 1.04	PCB, TOTAL	1
57529	31308	01-Jan-86	.125 - .125	PCB, TOTAL	0.3
57530	31380	01-Jan-86	.458 - .458	PCB, TOTAL	
57531	31308	01-Jan-86	1.13 - 1.13	PCB, TOTAL	1
57532	31308	01-Jan-86	.042 - .042	PCB, TOTAL	0.1
57533	31380	01-Jan-86	1.46 - 1.46	PCB, TOTAL	
57534	31380	01-Jan-86	1.54 - 1.54	PCB, TOTAL	0.9

57535	31452	01-Jan-86	.042 - .042	PCB, TOTAL	1.8
57536	31452	01-Jan-86	.125 - .125	PCB, TOTAL	2
57537	31452	01-Jan-86	.208 - .208	PCB, TOTAL	2.1
57538	31452	01-Jan-86	.292 - .292	PCB, TOTAL	1.9
57539	31452	01-Jan-86	.375 - .375	PCB, TOTAL	0.1
57540	31452	01-Jan-86	.458 - .458	PCB, TOTAL	1
57541	31452	01-Jan-86	.542 - .542	PCB, TOTAL	1.7
57542	31452	01-Jan-86	.625 - .625	PCB, TOTAL	1.7
57543	31452	01-Jan-86	.875 - .875	PCB, TOTAL	2.2
57544	31452	01-Jan-86	.792 - .792	PCB, TOTAL	0.9
57545	31452	01-Jan-86	.708 - .708	PCB, TOTAL	1.4
57546	31452	01-Jan-86	.958 - .958	PCB, TOTAL	2
57547	31452	01-Jan-86	1.04 - 1.04	PCB, TOTAL	0.5
57549	31452	01-Jan-86	1.21 - 1.21	PCB, TOTAL	3.3
57550	31452	01-Jan-86	1.13 - 1.13	PCB, TOTAL	2.2
57552	31452	01-Jan-86	1.29 - 1.29	PCB, TOTAL	2.8
57553	31452	01-Jan-86	1.38 - 1.38	PCB, TOTAL	3.7
57554	31452	01-Jan-86	1.46 - 1.46	PCB, TOTAL	2
57555	31452	01-Jan-86	1.54 - 1.54	PCB, TOTAL	1.9
57556	31452	01-Jan-86	1.63 - 1.63	PCB, TOTAL	3.1
57557	31452	01-Jan-86	1.71 - 1.71	PCB, TOTAL	1
57558	31452	01-Jan-86	1.79 - 1.79	PCB, TOTAL	0.8
57559	31452	01-Jan-86	1.88 - 1.88	PCB, TOTAL	1.5
57560	31452	01-Jan-86	1.96 - 1.96	PCB, TOTAL	1.1
57561	31452	01-Jan-86	2.04 - 2.04	PCB, TOTAL	5
57562	31452	01-Jan-86	2.13 - 2.13	PCB, TOTAL	4.1
57563	31452	01-Jan-86	2.21 - 2.21	PCB, TOTAL	3.0
57564	31452	01-Jan-86	2.29 - 2.29	PCB, TOTAL	0.2
57565	31452	01-Jan-86	2.38 - 2.38	PCB, TOTAL	0
57566	31452	01-Jan-86	2.46 - 2.46	PCB, TOTAL	0
57567	31452	01-Jan-86	2.54 - 2.54	PCB, TOTAL	0
57568	31411	01-Jan-86	1.29 - 1.29	PCB, TOTAL	8
57569	31411	01-Jan-86	1.21 - 1.21	PCB, TOTAL	5.4
57571	31411	01-Jan-86	1.71 - 1.71	PCB, TOTAL	0.6
57572	31411	01-Jan-86	1.63 - 1.63	PCB, TOTAL	1
57573	31411	01-Jan-86	1.54 - 1.54	PCB, TOTAL	2.4
57574	31411	01-Jan-86	1.38 - 1.38	PCB, TOTAL	
57575	31411	01-Jan-86	1.46 - 1.46	PCB, TOTAL	5.3
57576	31411	01-Jan-86	.208 - .208	PCB, TOTAL	1
57577	31411	01-Jan-86	1.13 - 1.13	PCB, TOTAL	1.6
57578	31411	01-Jan-86	.625 - .625	PCB, TOTAL	4
57579	31411	01-Jan-86	.792 - .792	PCB, TOTAL	3.4
57580	31411	01-Jan-86	.958 - .958	PCB, TOTAL	2.8
57581	31411	01-Jan-86	.375 - .375	PCB, TOTAL	1
57582	31411	01-Jan-86	.458 - .458	PCB, TOTAL	1
57583	31411	01-Jan-86	.875 - .875	PCB, TOTAL	4.2
57584	31411	01-Jan-86	1.04 - 1.04	PCB, TOTAL	4

57585	31411	01-Jan-86	.125 - .125	PCB, TOTAL	
57586	31411	01-Jan-86	.292 - .292	PCB, TOTAL	1
57587	31411	01-Jan-86	.542 - .542	PCB, TOTAL	2.0
57588	31411	01-Jan-86	.708 - .708	PCB, TOTAL	3.0
57589	31411	01-Jan-86	.42 - .42	PCB, TOTAL	1
57590	57602	01-Jan-86	.292 - .292	PCB, TOTAL	0
57591	57602	01-Jan-86	.458 - .458	PCB, TOTAL	0
57592	57602	01-Jan-86	.542 - .542	PCB, TOTAL	0
57593	31336	01-Jan-86	.375 - .375	PCB, TOTAL	0.2
57594	57602	01-Jan-86	.375 - .375	PCB, TOTAL	0
57595	31336	01-Jan-86	.208 - .208	PCB, TOTAL	0
57596	31336	01-Jan-86	.292 - .292	PCB, TOTAL	0.1
57597	31336	01-Jan-86	.125 - .125	PCB, TOTAL	0.3
57598	31336	01-Jan-86	.042 - .042	PCB, TOTAL	0.2
57599	31336	01-Jan-86	.458 - .458	PCB, TOTAL	0.1
57600	57602	01-Jan-86	.208 - .208	PCB, TOTAL	0
57601	57602	01-Jan-86	.125 - .125	PCB, TOTAL	0
57602	57602	01-Jan-86	.042 - .042	PCB, TOTAL	0
57603	31336	01-Jan-86	.542 - .542	PCB, TOTAL	0.1
BBD-18	BBD-18	10-Feb-98	0.0 - 0.1	PCB, TOTAL	0.13
BBD-18	BBD-18	10-Feb-98	0.1 - 0.5	PCB, TOTAL	0.13
BBD-19	BBD-19	10-Feb-98	0.0 - 0.1	PCB, TOTAL	0.12
BBD-19	BBD-19	10-Feb-98	0.1 - 0.5	PCB, TOTAL	0.13
BBD-20	BBD-20	10-Feb-98	0.0 - 0.1	PCB, TOTAL	0.13
BBD-20	BBD-20	10-Feb-98	0.1 - 0.5	PCB, TOTAL	0.13
BBD-21	BBD-21	11-Feb-98	0.0 - 0.1	PCB, TOTAL	0.14
BBD-21	BBD-21	11-Feb-98	0.1 - 0.5	PCB, TOTAL	0.14
BBD-22	BBD-22	11-Feb-98	0.0 - 0.1	PCB, TOTAL	0.15
BBD-22	BBD-22	11-Feb-98	0.1 - 0.5	PCB, TOTAL	0.1
BBD-23	BBD-23	11-Feb-98	0.0 - 0.1	PCB, TOTAL	0.15
BBD-23	BBD-23	11-Feb-98	0.1 - 0.5	PCB, TOTAL	0.15
BBD-24	BBD-24	12-Feb-98	0.0 - 0.1	PCB, TOTAL	0.15
BBD-24	BBD-24	12-Feb-98	0.1 - 0.5	PCB, TOTAL	0.15
BBD-25	BBD-25	12-Feb-98	0.0 - 0.1	PCB, TOTAL	0.20
BBD-25	BBD-25	12-Feb-98	0.1 - 0.5	PCB, TOTAL	0.15
BBD-26	BBD-26	12-Feb-98	0.0 - 0.1	PCB, TOTAL	0.17
BBD-26	BBD-26	12-Feb-98	0.1 - 0.5	PCB, TOTAL	0.14
BBD-27	BBD-27	17-Feb-98	0.0 - 0.1	PCB, TOTAL	0.18
BBD-27	BBD-27	17-Feb-98	0.1 - 0.5	PCB, TOTAL	0.14
BBD-28	BBD-28	17-Feb-98	0.0 - 0.1	PCB, TOTAL	0.18
BBD-28	BBD-28	17-Feb-98	0.1 - 0.5	PCB, TOTAL	0.17
BBD-29	BBD-29	17-Feb-98	0.0 - 0.1	PCB, TOTAL	0.18
BBD-29	BBD-29	17-Feb-98	0.1 - 0.5	PCB, TOTAL	0.15
BBD-30	BBD-30	13-Feb-98	0.0 - 0.1	PCB, TOTAL	0.21
BBD-30	BBD-30	13-Feb-98	0.1 - 0.5	PCB, TOTAL	0.14
BBD-31	BBD-31	18-Feb-98	0.0 - 0.1	PCB, TOTAL	0.1
BBD-31	BBD-31	18-Feb-98	0.1 - 0.5	PCB, TOTAL	0.13

BBD-31-DUP	BBD-31	18-Feb-98	0.1 - 0.5	PCB, TOTAL	0.16
BBD-32	BBD-32	18-Feb-98	0.0 - 0.1	PCB, TOTAL	0.15
BBD-32	BBD-32	18-Feb-98	0.1 - 0.5	PCB, TOTAL	0.14
BBD-33	BBD-33	18-Feb-98	0.0 - 0.1	PCB, TOTAL	0.25
BBD-33	BBD-33	18-Feb-98	0.1 - 0.5	PCB, TOTAL	0.20
BBD-34	BBD-34	18-Feb-98	0.0 - 0.1	PCB, TOTAL	0.39
BBD-34	BBD-34	18-Feb-98	0.1 - 0.5	PCB, TOTAL	0.21
BBD-CS-02	BBD-CS-02	19-Feb-98	0.0 - 0.03	PCB, TOTAL	0.34
BBD-CS-02	BBD-CS-02	19-Feb-98	0.0 - 0.1	PCB, TOTAL	0.30
BBD-CS-02	BBD-CS-02	19-Feb-98	0.07 - 0.10	PCB, TOTAL	0.34
BBD-CS-02	BBD-CS-02	19-Feb-98	0.1 - 0.13	PCB, TOTAL	0.33
BBD-CS-02	BBD-CS-02	19-Feb-98	0.1 - 0.2	PCB, TOTAL	0.34
BBD-CS-02	BBD-CS-02	19-Feb-98	0.3 - 0.4	PCB, TOTAL	0.3
BBD-CS-02	BBD-CS-02	19-Feb-98	0.5 - 0.6	PCB, TOTAL	0.37
BBD-CS-02	BBD-CS-02	19-Feb-98	0.7 - 0.8	PCB, TOTAL	1.8
BBD-CS-02	BBD-CS-02	19-Feb-98	0.9 - 1.0	PCB, TOTAL	1.8
BBD-CS-02	BBD-CS-02	19-Feb-98	1.1 - 1.15	PCB, TOTAL	1.4
BBD-CS-02	BBD-CS-02	19-Feb-98	1.3 - 1.35	PCB, TOTAL	1.3
BBD-CS-02	BBD-CS-02	19-Feb-98	1.5 - 1.54	PCB, TOTAL	2.3
BBD-CS-02	BBD-CS-02	19-Feb-98	1.9 - 1.94	PCB, TOTAL	0.66
BBD-CS-02	BBD-CS-02	19-Feb-98	2.2 - 2.3	PCB, TOTAL	0.14
BBD-CS-02	BBD-CS-02	19-Feb-98	2.5 - 2.6	PCB, TOTAL	1.7
BBD-CS-02	BBD-CS-02	19-Feb-98	2.9 - 2.92	PCB, TOTAL	0.19
FVD-32	FVD-32	04-Mar-98	0.0 - 0.1	PCB, TOTAL	0.14
FVD-32	FVD-32	04-Mar-98	0.1 - 0.5	PCB, TOTAL	0.13
FVD-32-DUP	FVD-32	04-Mar-98	0.1 - 0.5	PCB, TOTAL	0.15
FVD-34	FVD-34	04-Mar-98	0.0 - 0.1	PCB, TOTAL	0.13
FVD-34	FVD-34	04-Mar-98	0.1 - 0.5	PCB, TOTAL	0.14
FVD-37	FVD-37	05-Mar-98	0.0 - 0.1	PCB, TOTAL	0.1
FVD-37	FVD-37	05-Mar-98	0.1 - 0.5	PCB, TOTAL	0.12
FVD-38	FVD-38	05-Mar-98	0.0 - 0.1	PCB, TOTAL	0.14
FVD-38	FVD-38	05-Mar-98	0.1 - 0.5	PCB, TOTAL	0.14
FVD-39	FVD-39	05-Mar-98	0.0 - 0.1	PCB, TOTAL	0.14
FVD-39	FVD-39	05-Mar-98	0.1 - 0.5	PCB, TOTAL	0.14
FVD-40	FVD-40	28-Jan-98	0.0 - 0.1	PCB, TOTAL	0.13
FVD-40	FVD-40	28-Jan-98	0.1 - 0.5	PCB, TOTAL	0.14
FVD-41	FVD-41	28-Jan-98	0.0 - 0.1	PCB, TOTAL	0.13
FVD-41	FVD-41	28-Jan-98	0.1 - 0.5	PCB, TOTAL	0.14
FVD-44	FVD-44	30-Jan-98	0.0 - 0.1	PCB, TOTAL	0.15
FVD-44	FVD-44	30-Jan-98	0.1 - 0.5	PCB, TOTAL	0.13
FVD-45	FVD-45	04-Feb-98	0.0 - 0.1	PCB, TOTAL	0.13
FVD-45	FVD-45	04-Feb-98	0.1 - 0.5	PCB, TOTAL	0.13
FVD-45-DUP	FVD-45	04-Feb-98	0.1 - 0.5	PCB, TOTAL	0.13
FVD-47	FVD-47	04-Feb-98	0.0 - 0.1	PCB, TOTAL	0.13
FVD-47	FVD-47	04-Feb-98	0.1 - 0.5	PCB, TOTAL	0.13
FVD-50	FVD-50	04-Feb-98	0.0 - 0.1	PCB, TOTAL	0.12
FVD-50	FVD-50	04-Feb-98	0.1 - 0.5	PCB, TOTAL	0.1

FVD-51	FVD-51	05-Feb-98	0.0 - 0.1	PCB, TOTAL	0.15
FVD-51	FVD-51	05-Feb-98	0.1 - 0.5	PCB, TOTAL	0.18
H6B-SE001449-0-0000	SE001449	05-Nov-01	0 - .5	PCB, TOTAL	0.02
H6B-SE001449-0-0005	SE001449	05-Nov-01	.5 - 1	PCB, TOTAL	0.0
H6B-SE001450-0-0000	SE001450	05-Nov-01	0 - .5	PCB, TOTAL	0.0
H6B-SE001450-0-0005	SE001450	05-Nov-01	.5 - .75	PCB, TOTAL	0.0
H6B-SE001464-0-0000	SE001464	09-Nov-01	0 - .5	PCB, TOTAL	0.0
H6B-SE001464-0-0010	SE001464	09-Nov-01	1 - 1.5	PCB, TOTAL	0.01
H6C-SE001462-0-0000	SE001462	08-Nov-01	0 - .417	PCB, TOTAL	0.0
H6E-SE001451-0-0000	SE001451	05-Nov-01	0 - .45	PCB, TOTAL	0.01
H6E-SE001463-0-0000	SE001463	09-Nov-01	0 - .5	PCB, TOTAL	0.02
H6E-SE001463-0-0020	SE001463	09-Nov-01	2 - 2.5	PCB, TOTAL	0.02
H6F-SE001458-0-0000	SE001458	08-Nov-01	0 - .5	PCB, TOTAL	0.01
H6F-SE001458-0-0005	SE001458	08-Nov-01	.5 - .75	PCB, TOTAL	0.0
H6F-SE001458-1-0000	SE001458	08-Nov-01	0 - .5	PCB, TOTAL	0.0
H6F-SE001459-0-0000	SE001459	08-Nov-01	0 - .25	PCB, TOTAL	0.01
H6F-SE001460-0-0000	SE001460	08-Nov-01	0 - .25	PCB, TOTAL	0.0
H6F-SE001461-0-0000	SE001461	08-Nov-01	0 - .5	PCB, TOTAL	0.0
H6F-SE001461-1-0000	SE001461	08-Nov-01	0 - .5	PCB, TOTAL	0.0
H6F-SE001467-0-0000	SE001467	12-Nov-01	0 - .5	PCB, TOTAL	0.01
H6F-SE001467-0-0010	SE001467	12-Nov-01	1 - 1.5	PCB, TOTAL	0.01
H6F-SE001467-1-0010	SE001467	12-Nov-01	1 - 1.5	PCB, TOTAL	0.01
H6G-SE001466-0-0000	SE001466	12-Nov-01	0 - .5	PCB, TOTAL	0.4
H6G-SE001466-0-0005	SE001466	12-Nov-01	.5 - 1	PCB, TOTAL	1
H6H-SE001452-0-0000	SE001452	06-Nov-01	0 - .5	PCB, TOTAL	0.03
H6H-SE001452-0-0005	SE001452	06-Nov-01	.5 - .834	PCB, TOTAL	0.04
H6I-SE001453-0-0000	SE001453	07-Nov-01	0 - .5	PCB, TOTAL	0.02
H6I-SE001453-0-0005	SE001453	07-Nov-01	.5 - 1	PCB, TOTAL	0.02
H6I-SE001454-0-0000	SE001454	07-Nov-01	0 - .5	PCB, TOTAL	0.02
H6I-SE001454-0-0005	SE001454	07-Nov-01	.5 - 1	PCB, TOTAL	0.02
H6I-SE001455-0-0000	SE001455	07-Nov-01	0 - .5	PCB, TOTAL	0.02
H6I-SE001455-0-0005	SE001455	07-Nov-01	.5 - 1	PCB, TOTAL	0.02
H6I-SE001456-0-0000	SE001456	07-Nov-01	0 - .5	PCB, TOTAL	0.01
H6I-SE001456-0-0005	SE001456	07-Nov-01	.5 - .75	PCB, TOTAL	0.01
H6I-SE001457-0-0000	SE001457	07-Nov-01	0 - .5	PCB, TOTAL	0.0
H6I-SE001457-0-0025	SE001457	07-Nov-01	2.5 - 3	PCB, TOTAL	0.02
H6I-SE001465-0-0000	SE001465	12-Nov-01	0 - .5	PCB, TOTAL	0.02
H6-SE001443-0-0000	SE001443	02-Nov-01	0 - .5	PCB, TOTAL	0.02
H6-SE001443-0-0005	SE001443	02-Nov-01	.5 - .75	PCB, TOTAL	0.0
H6-SE001444-0-0000	SE001444	02-Nov-01	0 - .5	PCB, TOTAL	0.02
H6-SE001445-0-0000	SE001445	02-Nov-01	0 - .5	PCB, TOTAL	0.0
H6-SE001446-0-0000	SE001446	02-Nov-01	0 - .5	PCB, TOTAL	0.02
H6-SE001446-0-0005	SE001446	02-Nov-01	.5 - 1	PCB, TOTAL	0.03
H6-SE001446-1-0000	SE001446	02-Nov-01	0 - .5	PCB, TOTAL	0.02
H6-SE001447-0-0000	SE001447	02-Nov-01	0 - .25	PCB, TOTAL	0.0
H6-SE001448-0-0000	SE001448	02-Nov-01	0 - .5	PCB, TOTAL	0.01
P1E(0-6)	SD-P1E	15-Jun-99	0 - .5	PCB, TOTAL	0.09

P1E(12-18)	SD-P1E	15-Jun-99	1 - 1.5	PCB, TOTAL	0.08
P1E(18-24)	SD-P1E	15-Jun-99	1.5 - 2	PCB, TOTAL	0.2
P1E(48-54)	SD-P1E	15-Jun-99	4 - 4.5	PCB, TOTAL	0.04
P1E(54-60)	SD-P1E	15-Jun-99	4.5 - 5	PCB, TOTAL	0.04
P1E(6-12)	SD-P1E	15-Jun-99	.5 - 1	PCB, TOTAL	0
P2E(0-6)	SD-P2E	16-Jun-99	0 - .5	PCB, TOTAL	0.3
P2E(24-30)	SD-P2E	16-Jun-99	2 - 2.5	PCB, TOTAL	0.3
P2E(30-36)	SD-P2E	16-Jun-99	2.5 - 3	PCB, TOTAL	0.3
P2E(40-54)	SD-P2E	16-Jun-99	3.33 - 4.5	PCB, TOTAL	0.6
P3E(0-6)	SD-P3E	06-Jul-99	0 - .5	PCB, TOTAL	0.08
P3E(12-18)	SD-P3E	06-Jul-99	1 - 1.5	PCB, TOTAL	0.1
P3E(18-24)	SD-P3E	06-Jul-99	1.5 - 2	PCB, TOTAL	0.1
P3E(24-30)	SD-P3E	06-Jul-99	2 - 2.5	PCB, TOTAL	0.09
P3E(30-36)	SD-P3E	06-Jul-99	2.5 - 3	PCB, TOTAL	0
P3E(48-54)	SD-P3E	06-Jul-99	4 - 4.5	PCB, TOTAL	0.03
P3E(54-60)	SD-P3E	06-Jul-99	4.5 - 5	PCB, TOTAL	0.03
P3E(6-12)	SD-P3E	06-Jul-99	.5 - 1	PCB, TOTAL	0.09
P4E(24-30)	SD-P4E	07-Jul-99	2 - 2.5	PCB, TOTAL	0.1
P4E(72-78)	SD-P4E	07-Jul-99	6 - 6.5	PCB, TOTAL	0.04
P4E(78-84)	SD-P4E	07-Jul-99	6.5 - 7	PCB, TOTAL	0.04
RiverTblBBLID7075	RiverTblBBLID7075	03-Jul-80		PCB, TOTAL	0.3
SITE 100	SITE 100	01-Jan-80	0.0 - 0.5	PCB, TOTAL	
SITE 101	SITE 101	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.1
SITE 102	SITE 102	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.0
SITE 103	SITE 103	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.1
SITE 104	SITE 104	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.1
SITE 105	SITE 105	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.3
SITE 106	SITE 106	01-Jan-80	0.0 - 0.5	PCB, TOTAL	
SITE 107	SITE 107	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.0
SITE 108	SITE 108	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.6
SITE 109	SITE 109	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.1
SITE 110	SITE 110	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.6
SITE 110	SITE 110	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.1
SITE 110	SITE 110	01-Jan-80	1.0 - 1.5	PCB, TOTAL	
SITE 111	SITE 111	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.0
SITE 111	SITE 111	01-Jan-80	0.0 - 0.8	PCB, TOTAL	0.0
SITE 111	SITE 111	01-Jan-80	0.8 - 1.5	PCB, TOTAL	
SITE 111	SITE 111	01-Jan-80	1.5 - 2.3	PCB, TOTAL	
SITE 113	SITE 113	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.1
SITE 113	SITE 113	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.6
SITE 113	SITE 113	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.7
SITE 113	SITE 113	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.1
SITE 114	SITE 114	01-Jan-80	0.0 - 0.5	PCB, TOTAL	2.6
SITE 115	SITE 115	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.2
SITE 115	SITE 115	01-Jan-80	0.5 - 1.0	PCB, TOTAL	1.0
SITE 115	SITE 115	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.7
SITE 115	SITE 115	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.1

SITE 116	SITE 116	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1
SITE 116	SITE 116	01-Jan-80	0.5 - 1.0	PCB, TOTAL	2
SITE 116	SITE 116	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.3
SITE 116	SITE 116	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.1
SITE 117	SITE 117	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.1
SITE 117	SITE 117	01-Jan-80	0.5 - 1.0	PCB, TOTAL	1.1
SITE 117	SITE 117	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.9
SITE 117	SITE 117	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.1
SITE 118	SITE 118	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.9
SITE 118	SITE 118	01-Jan-80	0.0 - 0.7	PCB, TOTAL	0.9
SITE 118	SITE 118	01-Jan-80	0.7 - 1.2	PCB, TOTAL	0.2
SITE 118	SITE 118	01-Jan-80	1.2 - 2.0	PCB, TOTAL	0
SITE 118	SITE 118	01-Jan-80	2.0 - 2.7	PCB, TOTAL	0.3
SITE 119	SITE 119	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.0
SITE 120	SITE 120	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.0
SITE 121	SITE 121	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 122	SITE 122	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.1
SITE 122	SITE 122	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.0
SITE 122	SITE 122	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.0
SITE 122	SITE 122	01-Jan-80	1.5 - 2.0	PCB, TOTAL	
SITE 123	SITE 123	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.0
SITE 124	SITE 124	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.7
SITE 125	SITE 125	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.6
SITE 126	SITE 126	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.1
SITE 127	SITE 127	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.0
SITE 128	SITE 128	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.8
SITE 129	SITE 129	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.8
SITE 129	SITE 129	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.7
SITE 129	SITE 129	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.2
SITE 129	SITE 129	01-Jan-80	1.5 - 2.0	PCB, TOTAL	1
SITE 130	SITE 130	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.1
SITE 130	SITE 130	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.1
SITE 130	SITE 130	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.8
SITE 130	SITE 130	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.4
SITE 131	SITE 131	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 132	SITE 132	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0
SITE 133	SITE 133	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.0
SITE 134	SITE 134	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.3
SITE 134	SITE 134	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.0
SITE 134	SITE 134	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.1
SITE 134	SITE 134	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.1
SITE 135	SITE 135	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.6
SITE 135	SITE 135	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.6
SITE 135	SITE 135	01-Jan-80	1.0 - 1.5	PCB, TOTAL	1
SITE 135	SITE 135	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.0
SITE 136	SITE 136	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.9
SITE 137	SITE 137	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.8

SITE 137	SITE 137	01-Jan-80	0.5 - 1.0	PCB, TOTAL	1
SITE 137	SITE 137	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.2
SITE 137	SITE 137	01-Jan-80	1.5 - 2.0	PCB, TOTAL	1
SITE 138	SITE 138	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1
SITE 138	SITE 138	01-Jan-80	0.5 - 1.0	PCB, TOTAL	1
SITE 138	SITE 138	01-Jan-80	1.0 - 1.5	PCB, TOTAL	1
SITE 139	SITE 139	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.3
SITE 139	SITE 139	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.0
SITE 139	SITE 139	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0
SITE 139	SITE 139	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.5
SITE 140	SITE 140	01-Jan-80	0.0 - 0.5	PCB, TOTAL	2
SITE 140	SITE 140	01-Jan-80	0.5 - 1.0	PCB, TOTAL	2
SITE 140	SITE 140	01-Jan-80	1.0 - 1.5	PCB, TOTAL	
SITE 140	SITE 140	01-Jan-80	1.5 - 2.0	PCB, TOTAL	2
SITE 141	SITE 141	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.7
SITE 141	SITE 141	01-Jan-80	0.5 - 1.0	PCB, TOTAL	2
SITE 141	SITE 141	01-Jan-80	1.0 - 1.5	PCB, TOTAL	2
SITE 141	SITE 141	01-Jan-80	1.5 - 2.0	PCB, TOTAL	2
SITE 141	SITE 141	01-Jan-80	2.0 - 2.5	PCB, TOTAL	
SITE 61	SITE 61	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.6
SITE 62	SITE 62	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 63	SITE 63	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.2
SITE 64	SITE 64	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0
SITE 65	SITE 65	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.9
SITE 66	SITE 66	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.7
SITE 67	SITE 67	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.7
SITE 68	SITE 68	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.6
SITE 69	SITE 69	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.0
SITE 70	SITE 70	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 71	SITE 71	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.0
SITE 72	SITE 72	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 73	SITE 73	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.1
SITE 74	SITE 74	01-Jan-80	0.0 - 0.5	PCB, TOTAL	
SITE 78	SITE 78	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 79	SITE 79	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0
SITE 79	SITE 79	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.2
SITE 79	SITE 79	01-Jan-80	1.0 - 1.5	PCB, TOTAL	1
SITE 80	SITE 80	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.5
SITE 81	SITE 81	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.5
SITE 82	SITE 82	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 82	SITE 82	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.0
SITE 83	SITE 83	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.1
SITE 84	SITE 84	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 84	SITE 84	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.7
SITE 84	SITE 84	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0.2
SITE 84	SITE 84	01-Jan-80	1.5 - 2.0	PCB, TOTAL	0.3
SITE 85	SITE 85	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.1

SITE 86	SITE 86	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.4
SITE 86	SITE 86	01-Jan-80	0.5 - 1.0	PCB, TOTAL	
SITE 86	SITE 86	01-Jan-80	1.0 - 1.5	PCB, TOTAL	
SITE 86	SITE 86	01-Jan-80	1.5 - 2.0	PCB, TOTAL	
SITE 87	SITE 87	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.8
SITE 88	SITE 88	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.6
SITE 88	SITE 88	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0
SITE 88	SITE 88	01-Jan-80	1.0 - 1.5	PCB, TOTAL	1.0
SITE 88	SITE 88	01-Jan-80	1.5 - 2.0	PCB, TOTAL	1.4
SITE 89	SITE 89	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 90	SITE 90	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.3
SITE 90	SITE 90	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.0
SITE 90	SITE 90	01-Jan-80	1.0 - 1.5	PCB, TOTAL	
SITE 91	SITE 91	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.6
SITE 92	SITE 92	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.2
SITE 92	SITE 92	01-Jan-80	0.5 - 1.0	PCB, TOTAL	
SITE 93	SITE 93	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.4
SITE 93	SITE 93	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.4
SITE 93	SITE 93	01-Jan-80	1.0 - 1.5	PCB, TOTAL	0
SITE 94	SITE 94	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.4
SITE 96	SITE 96	01-Jan-80	0.0 - 0.5	PCB, TOTAL	3.1
SITE 97	SITE 97	01-Jan-80	0.0 - 0.5	PCB, TOTAL	0.9
SITE 97	SITE 97	01-Jan-80	0.5 - 1.0	PCB, TOTAL	0.5
SITE 98	SITE 98	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.2
SITE 99	SITE 99	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.6
SITE112	SITE112	01-Jan-80	0.0 - 0.5	PCB, TOTAL	1.2